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Barrier-Free® Examination Table

Model Numbers:

222 -001 thru -017

223 -001 thru -016

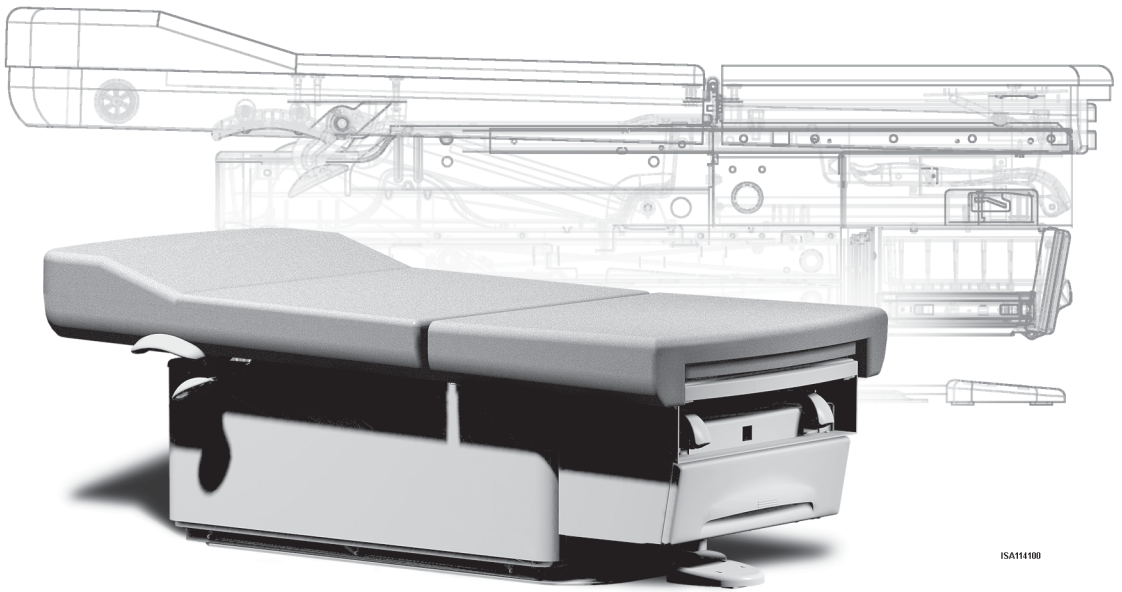
622 -001 thru -008

623 -001 thru -011

Some Models NO LONGER IN PRODUCTION
Some service parts may not be available for this product!

MIDMARK®

Service and Parts Manual



FOR USE BY MIDMARK TRAINED TECHNICIANS ONLY

SF-1822

Part No. 004-0363-00 Rev. 6/15/15

Style B

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Section A

OPERATION & TROUBLESHOOTING

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**** Indicates multiple pages due to model / serial number break(s)***

Symbols

Caution
Indicates a potentially hazardous situation which could result in injury if not avoided.

Equipment Alert
Indicates a potentially hazardous situation which could result in equipment damage if not avoided.

Note
Amplifies a procedure, practice, or condition.

In Section A, test the components in the order indicated. (ex. ***1st*** ✓ then, ***2nd*** ✓)

Refer to Section B for component testing procedures.

These symbols are used throughout this manual to represent the operational status of table functions and components.

Indicates the function / component is working properly. No action required.

Indicates the function / component is working, but a problem exists.

Indicates the function / component is not working at all.

Ordering Parts

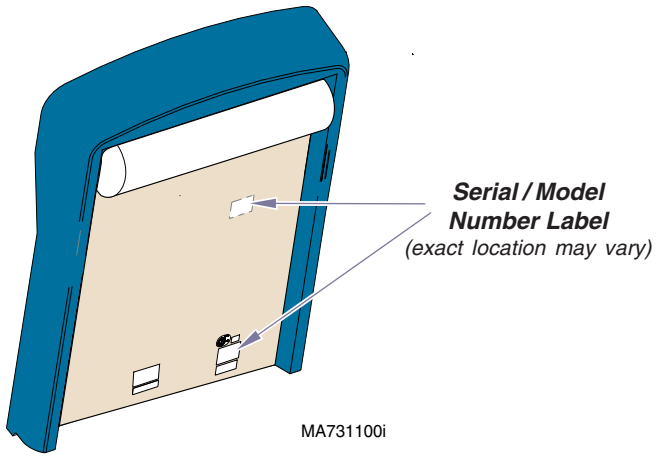
The following information is required when ordering parts:

- Serial number & model number
- Part number for desired part.
  [Refer to Exploded Views / Parts Lists section]

<u>Non-warranty</u> part orders may be faxed to Midmark using the Fax Order Form in the back of this manual.

For warranty part orders, call Midmark's Technical Service Department with the required information.
Hours: 8:00 am until 5:00 pm EST [Monday - Friday]
Phone: 1-(800)-Midmark

Serial Number Location



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General Information

Specifications

Patient Weight (maximum) ..... 400 lbs (181.4 kgs)

Paper Roll (maximum size): ..... 21 in. long x 3.5 in. diameter (53.3 x 8.9 cm)
Export models ..... 19.7 in. long x 4.7 in. diameter (50 cm x 12 cm)

Range of Motion ..... *See illustration on this page*
Dimensions ..... *See illustration on next page*

Weight of Table:
[230 VAC models only: 230 V transformer adds 14.5 lbs (6.5 kg)]
w/ upholstery ..... 325 lbs (147.4 kg)
w/packaging & skid *(no upholstery)* ..... 375 lbs (192.7 kg)
Weight of Upholstery:
w/packaging *(shipped separately)* ..... 40 lbs (18.1 kg)

Power Cord(s) *[115V models have two cords]*: ..... 8 ft. (243.8 cm) long

Electrical Rating: ..... *See Compliance Charts*

Foot Control Voltage: ..... 14 VAC, SELV (Safety Extra Low Voltage)

Duplex Receptacle maximum load: ..... 115 VAC, 5A

Fuses: ..... Refer to: *Section E - Fuses*

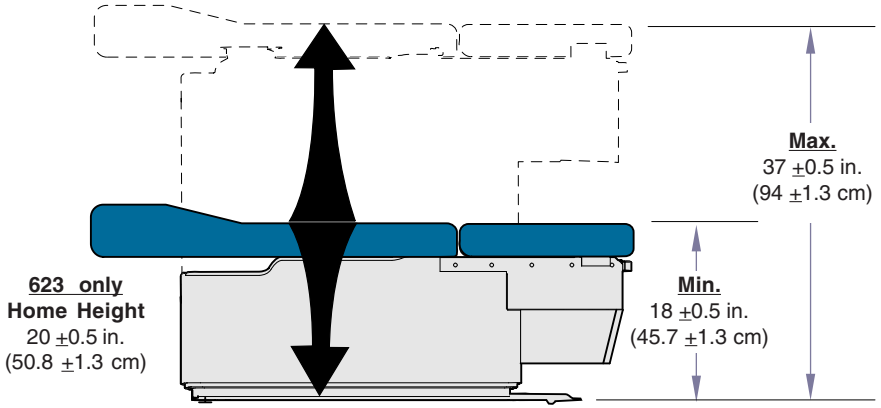
Duty Cycle*:*
Actuator motor run time: ..... Intermittent Operation (Domestic: 30 seconds ON / 5 minutes OFF) (Export: 25 seconds ON / 7 minutes OFF)
Receptacle / Drawer Heater / Uph. Htr: ..... Continuous Operation

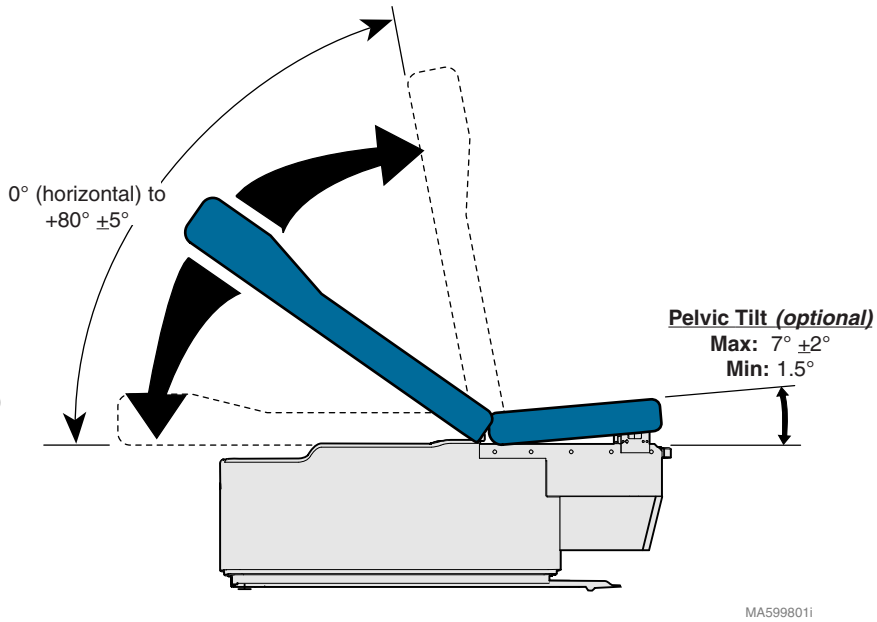
Classifications: ..... Class I, Type B Applied Part, Ordinary Equipment, Intermittent Operation (Domestic: 30 seconds ON / 5 minutes OFF) (Export: 25 seconds ON / 7 minutes OFF)

Protection against ingress of fluids: ..... IPX0 *[Foot Control only: IPX1]*

Regulatory Compliance: ..... *See **Regulatory Compliance Charts***

Table Speeds *(by function):*
Base ..... 14 - 26 seconds
Back *(models w/power back)* ..... 15 - 20 seconds





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General Information

Model Identification / Compliance Chart - 222

Model	Description	Serial Number Prefix	Complies To:						Electrical Ratings:		
			UL 60601-1	CAN/CSA 22.2, #601.1-M90	UL 544	EN 60601-1	EN 60601-1-2 (EMC)	CE	VAC +/- 10%	Amps	Cycles (Hz)
222-001	**Ritter Basic Table** (Standard Top)	RG,V	X	X		X	X	X	115	5.5	50/60
222-002	**Ritter Basic Table** w/ Receptacle (Standard Top)	RH,V			X		X	X	115	10.5	50/60
222-003	**Ritter Basic Table** w/ Drawer Heater, Pelvic Tilt (Standard Top)	RJ,V	X	X		X	X	X	115	6	50/60
222-004	**Ritter Basic Table** w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	RK,V			X		X	X	115	11	50/60
222-005	**Ritter Basic Table** (Seamless Top)	RG,V	X	X		X	X	X	115	5.5	50/60
222-006	**Ritter Basic Table** w/ Receptacle, (Seamless Top)	RH,V			X		X	X	115	10.5	50/60
222-007	**Ritter Basic Table** w/ Drawer Heater, Pelvic Tilt (Seamless Top)	RJ,V	X	X		X	X	X	115	6	50/60
222-008	**Ritter Basic Table** w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	RK,V			X		X	X	115	11	50/60
222-009	**Ritter Basic Export Table** w/Pelvic Tilt (Seamless Top)	RL,V				X	X	X	230	2.75	50/60
222-010	**Ritter Basic Export Table** w/ Pelvic Tilt, Drawer Heater (SeamlessTop)	RM,V				X	X	X	230	3	50/60
222-011	**Ritter Basic Table (Canada)** w/Receptacle (Standard Top)	V		X			X	X	115	10.5	50/60
222-012	**Ritter Basic Table (Canada)** w/Receptacle, Pelvic Tilt, Drawer Heater (Standard Top)	V		X			X	X	115	11	50/60
222-013	**Ritter Basic Table (Canada)** w/Receptacle (SeamlessTop)	V		X			X	X	115	10.5	50/60
222-014	**Ritter Basic Table (Canada)** w/Receptacle, Pelvic Tilt, Drawer Heater (Seamless Top)	V		X			X	X	115	11	50/60
222-015	**Ritter Basic Table** w/ Receptacle	V	X	X		X	X	X	115	10.5	50/60
222-016	**Ritter Basic Table** w/ Receptacle, Pelvic Tilt, Drawer Heater	V	X	X		X	X		115	11	50/60
222-017	**Ritter Basic Table - Export** w/ Pelvic Tilt	V	X	X		X	X	X	230	2.75	50/60

Fire Code Ratings:

All upholstery complies with California Bureau of Home Furnishing Technical Bulletin 117.

Optional upholstery is available that complies with California Bureau of Home Furnishing Technical Bulletin 133.

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General Information

Model Identification / Compliance Chart - 223

Model	Description	Serial Number Prefix	Complies To:						Electrical Ratings:		
			UL 60601-1	CAN/CSA 22.2, #601.1-M90	UL 544	EN 60601-1	EN 60601-1-2 (EMC)	CE	VAC +/- 10%	Amps	Cycles (Hz)
223-001	**Ritter Power Back Table** (Standard Top)	SC, V	X	X		X	X	X	115	7	50/60
223-002	**Ritter Power Back Table** w/ Receptacle (Standard Top)	SD, V			X		X	X	115	12	50/60
223-003	**Ritter Power BackTable** w/ Drawer Heater, Pelvic Tilt (Standard Top)	SE, V	X	X		X	X	X	115	7.5	50/60
223-004	**Ritter Power Back Table** w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	SF, V			X		X	X	115	12.5	50/60
223-005	**Ritter Power Back Table** (Seamless Top)	SC, V	X	X		X	X	X	115	7	50/60
223-006	**Ritter Power Back Table** w/ Receptacle (Seamless Top)	SD, V			X		X	X	115	12	50/60
223-007	**Ritter Power Back Table** w/ Drawer Heater, Pelvic Tilt (Seamless Top)	SE, V	X	X		X	X	X	115	7.5	50/60
223-008	**Ritter Power Back Table** w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	SF, V			X		X	X	115	12.5	50/60
223-009	**Ritter Power Back Export Table** w/ Pelvic Tilt (Seamless Top)	SG, V				X	X	X	230	3.75	50/60
223-010	**Ritter Power Back Export Table** w/ Pelvic Tilt, Drawer Heater (Seamless Top)	SH, V				X	X	X	230	4	50/60
223-011	**Ritter Power Back Table (Canada)** w/ Receptacle (Standard Top)	V		X			X	X	115	12	50/60
223-012	**Ritter Power Back Table (Canada)** w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	V		X			X	X	115	12.5	50/60
223-013	**Ritter Power Back Table (Canada)** w/ Receptacle (Seamless Top)	V		X			X	X	115	12	50/60
223-014	**Ritter Power Back Table (Canada)** w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	V		X			X	X	115	12.5	50/60
223-015	**Ritter Power Back Table** w/ Receptacle	V	X	X		X	X	X	115	12	50/60
223-016	**Ritter Power Back Table** w/ Receptacle, Pelvic Tilt, Drawer Heater	V	X	X		X	X		115	12.5	50/60

Fire Code Ratings:

All upholstery complies with California Bureau of Home Furnishing Technical Bulletin 117.

Optional upholstery is available that complies with California Bureau of Home Furnishing Technical Bulletin 133.

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General Information

Model Identification / Compliance Chart - 622 / 623

Model	Description	Serial Number Prefix	Complies To:						Electrical Ratings:		
			UL 60601-1	CAN/CSA 22.2, #601.1-M90	UL 544	EN 60601-1	EN 60601-1-2 (EMC)	CE	VAC +/- 10%	Amps	Cycles (Hz)
622-001	**Midmark Manual Back Table** w/ Receptacle	SJ, V			X		X	X	115	10.5	50/60
622-002	**Midmark Manual Back Table** w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Upholstery	SK, V			X		X	X	115	11.5	50/60
622-003	**Midmark Manual Back Table** w/ Pelvic Tilt	SN, V	X	X		X	X	X	230	2.75	50/60
622-004	**Midmark Manual Back Table** w/ Drawer Heater, Pelvic Tilt, & Heated Upholstery	SP, V	X	X		X	X	X	230	3.25	50/60
622-005	**Midmark Manual Back Table (Canada)** w/ Receptacle	V		X			X	X	115	10.5	50/60
622-006	**Midmark Manual Back Table (Canada)** w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Upholstery	V		X			X	X	115	11.5	50/60
622-007	**Midmark Manual Back Table** w/ Receptacle	V	X	X		X	X	X	115	10.5	50/60
622-008	**Midmark Manual Back Table** w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Upholstery	V	X	X		X	X	X	115	11.5	50/60
623-001	**Midmark Power Back Table** w/ Receptacle	SL, V			X		X	X	115	12.5	50/60
623-002	**Midmark Power Back Table** w/ Receptacle, Pelvic Tilt, Drawer Heater, & Heated Upholstery	SM, V			X		X	X	115	13.5	50/60
623-003	**Midmark Power Back Table** w/ Pelvic Tilt	SR, V	X	X			X	X	230	3.75	50/60
623-004	**Midmark Power Back Table** w/ Pelvic Tilt, Drawer Heater, & Heated Upholstery	SS, V	X	X			X	X	230	4.25	50/60
623-005	**Midmark Power Back Table (Canada)** w/ Receptacle	V		X			X	X	115	12.5	50/60
623-006	**Ritter Power Back Table (Canada)** w/ Receptacle, Pelvic Tilt, Drawer Heater, Heated Upholstery	V		X			X	X	115	13.5	50/60
623-007	**Midmark Power Back Table** w/ Receptacle	V	X	X		X	X	X	115	12.5	50/60
623-008	**Midmark Power Back Table** w/ Receptacle, Pelvic Tilt, Drawer Heater, & Heated Upholstery	V	X	X		X	X		115	13.5	50/60
623-009	**Midmark Power Back Table - Export** w/ Pelvic Tilt	V	X	X		X	X	X	230	3.75	50/60
623-010	**Midmark Power Back Table - Export** w/ Pelvic Tilt, Drawer Heater, & Heated Upholstery	V	X	X		X	X		230	4.25	50/60
623-011	**Midmark Power Back Table - Export** w/ Pelvic Tilt, & Drawer Heater	V	X	X		X	X	X	230	4.0	50/60

Fire Code Ratings:

All upholstery complies with California Bureau of Home Furnishing Technical Bulletin 117.

Optional upholstery is available that complies with California Bureau of Home Furnishing Technical Bulletin 133.

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General Information

Scheduled Maintenance / Barrier-Free® Examination Table						
Interval	**Inspection or Service**	**Service, Adjust , Repair and / or Replace as Required** (Refer to appropriate S&P or Quick Reference Guide)	**222**	**223**	**622**	**623**
Weekly	Cleaning	Clean upholstery with diluted bleach solution. 10:1 (water:bleach)	X	X	X	X
		Wipe painted metal & plastic surfaces with a clean soft cloth and mild cleaner. (NOTE: Periodic application of common furniture wax will ease cleaning, and maintain the luster of the surfaces).	X	X	X	X
	Obvious Damage	Visually inspect components for damage that could cause problems during operation or unsafe operation.	X	X	X	X
Semi-Annually	Mechanical Operation	Check all mechanical functions using the foot control. Repeat using the hand control when present.	X	X	X	X
		Check manual back releaase mechanism for proper operation.	X	X	X	X
		Table shrouds should move smoothly & quietly when base is raised & lowered. (NOTE: There are plastic glides on the shroud tabs. Missing glides may result in noisy operation.)	X	X	X	X
	Labels / Decals	Replace any missing or illegible labels.	X	X	X	X
	Lubricate	Lubricate back hinge with light machine oil.	X	X	X	X
		Lubricate footrest slide with household furniture wax.	X	X	X	X
	Hardware	All fasteners must be present and fastened securely.	X	X	X	X
	Electrical System	Inspect power cord and all wiring for damage.	X	X	X	X
		Be sure all electrical connections are tight.	X	X	X	X
	Stirrups	Check that stirrups extend easily, and lock securely into each lateral position.	X	X	X	X
Date of Service: _____/____/____ Location: Service Technician:			Model: Serial Number:			

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Warranty Information

SCOPE OF WARRANTY

Midmark Corporation (“Midmark”) warrants to the original purchaser its new Alternate Care products and components (except for components not warranted under “Exclusions”) manufactured by Midmark to be free from defects in material and workmanship under normal use and service. Midmark’s obligation under this warranty is limited to the repair or replacement, at Midmark’s option, of the parts or the products the defects of which are reported to Midmark within the applicable warranty period and which, upon examination by Midmark, prove to be defective.

APPLICABLE WARRANTY PERIOD

The applicable warranty period, measured from the date of delivery to the original user, shall be one (1) year for all warranted products and components.

EXCLUSIONS

This warranty does not cover and Midmark shall not be liable for the following: (1) repairs and replacements because of misuse, abuse, negligence, alteration, accident, freight damage, or tampering; (2) products which are not installed, used, and properly cleaned as required in the Midmark “Installation” and or “Installation / Operation Manual for this applicable product. (3) products considered to be of a consumable nature; (4) accessories or parts not manufactured by Midmark; (5) charges by anyone for adjustments, repairs, replacement parts, installation, or other work performed upon or in connection with such products which is not expressly authorized in writing in advance by Midmark.

EXCLUSIVE REMEDY

Midmark’s only obligation under this warranty is the repair or replacement of defective parts. Midmark shall not be liable for any direct, special, indirect, incidental, exemplary, or consequential damages or delay, including, but not limited to, damages for loss of profits or loss of use.

NO AUTHORIZATION

No person or firm is authorized to create for Midmark any other obligation or liability in connection with the products.

THIS WARRANTY IS MIDMARK’S ONLY WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. MIDMARK MAKES NO IMPLIED WARRANTIES OF ANY KIND INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACE MENT OF DEFECTIVE PARTS.

SF-1487 REV. A1

Additional Information

Failure to follow the guidelines listed below will void the warranty and/or render the table unsafe for use.

- If a malfunction is detected, do not use the table until necessary repairs are made.
- Do not attempt to disassemble table, replace components, or perform adjustments unless you are a Midmark authorized service technician.
- Do not use another manufacturer's parts to replace malfunctioning components. Use only Midmark replacement parts

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Section A

Troubleshooting

Table Function	Go To Page:
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Back Up / Down	A-11
Drawer Heater	A-23
Table Receptacle	A-27
Auto Return	A-29
Upholstery Heater System	A-32

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. A-2)

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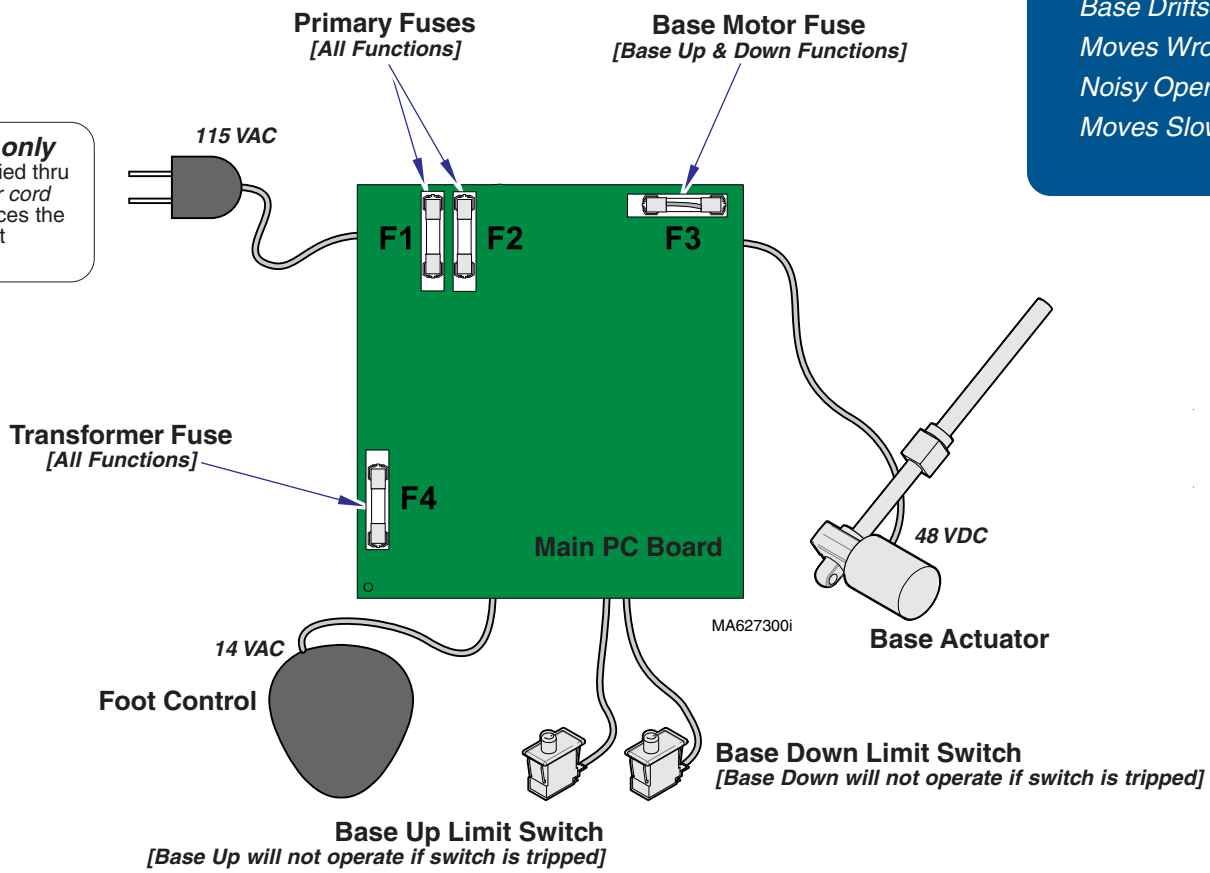
Troubleshooting

Base UP / DOWN Function

This illustration shows only the components that affect the Base UP / DOWN function.
Refer to the following page for a detailed description of current flow during this function.

NOTE: *230 VAC models only*
Line voltage (230 VAC) is supplied thru two fuses *(located by the power cord inlet)* to a transformer that reduces the line voltage to 115 VAC before it reaches the PC Board.



Troubleshooting
[Base Up / Down Function]

Problem	**Go To Page:**
No UP or DOWN Functions	A-4
No UP Function (DOWN - OK)	A-5
No DOWN Function (UP - OK)	A-6
Base Drifts Down	A-7
Moves Wrong Direction	A-8
Noisy Operation	A-9
Moves Slowly	A-10

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Base UP / DOWN Function

NOTE
On 230 VAC models, line voltage *(230 VAC)* is supplied thru two fuses *(located by IEC inlet)* to a transformer that reduces the line voltage to 115 VAC before it gets to the PC board.

Power To Foot Control
115 VAC is supplied thru the two primary fuses *(F1 & F2)* to the transformer on the PC board. *[F4 fuse protects the transformer]*.

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Base Up Operation

NOTE
If the Base Up limit switch is tripped (open), the Base Up function will not operate.

When the Base Up function is activated, current *(14 VAC)* flows thru the Up function foot switch *(N.O)*, then back to the PC board. Circuitry on the PC Board energizes the base relay. *[F3 fuse protects the base motor]*.

NOTE
The Base Up/Down relay has four contacts:
(2) Normally Open: Base Up function
(2) Normally Closed: Base Down function

When the base relay is energized, the (2) Normally Open contacts of the relay close. When these contacts close, current (*48 VDC)* flows to the actuator motor.

When current flows to the actuator thru the Normally Open contacts of the relay, the actuator motor runs and raises the table.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Base Up limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Base Motor, Transformer fuse]

Base Down Operation

NOTE
If the Base Down limit switch is tripped (open), the Base Down function will not operate.

When the Base Down function is activated, current *(14 VAC)* flows thru the Down function foot switch *(N.O.)*, then back to the PC Board.

NOTE
The Base Up/Down relay has four contacts:
(2) Normally Open: Base Up function
(2) Normally Closed: Base Down function

When this voltage is applied, current *(48 VDC)* flows to the actuator motor thru the (2) Normally Closed contacts of the Base Up/Down relay. *[The relay does <u>not</u> energize]*.

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs and lowers the table.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Base Down limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Base Motor, Transformer fuse]

Equipment Alert
If an overload condition is detected the PC board will "beep" and <u>all</u> power functions will be disabled. Release the function button, remove load, then retry function.*
**(weight limit exceeded, mechanical binding, etc),*

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Troubleshooting

Go To Table Of Contents

Function	Status	Problem
Base Up		No movement
Base Down		No movement

Refer To: — **Go To Page:**

Fuses B-2
Limit Switches B-4
Foot Control B-6
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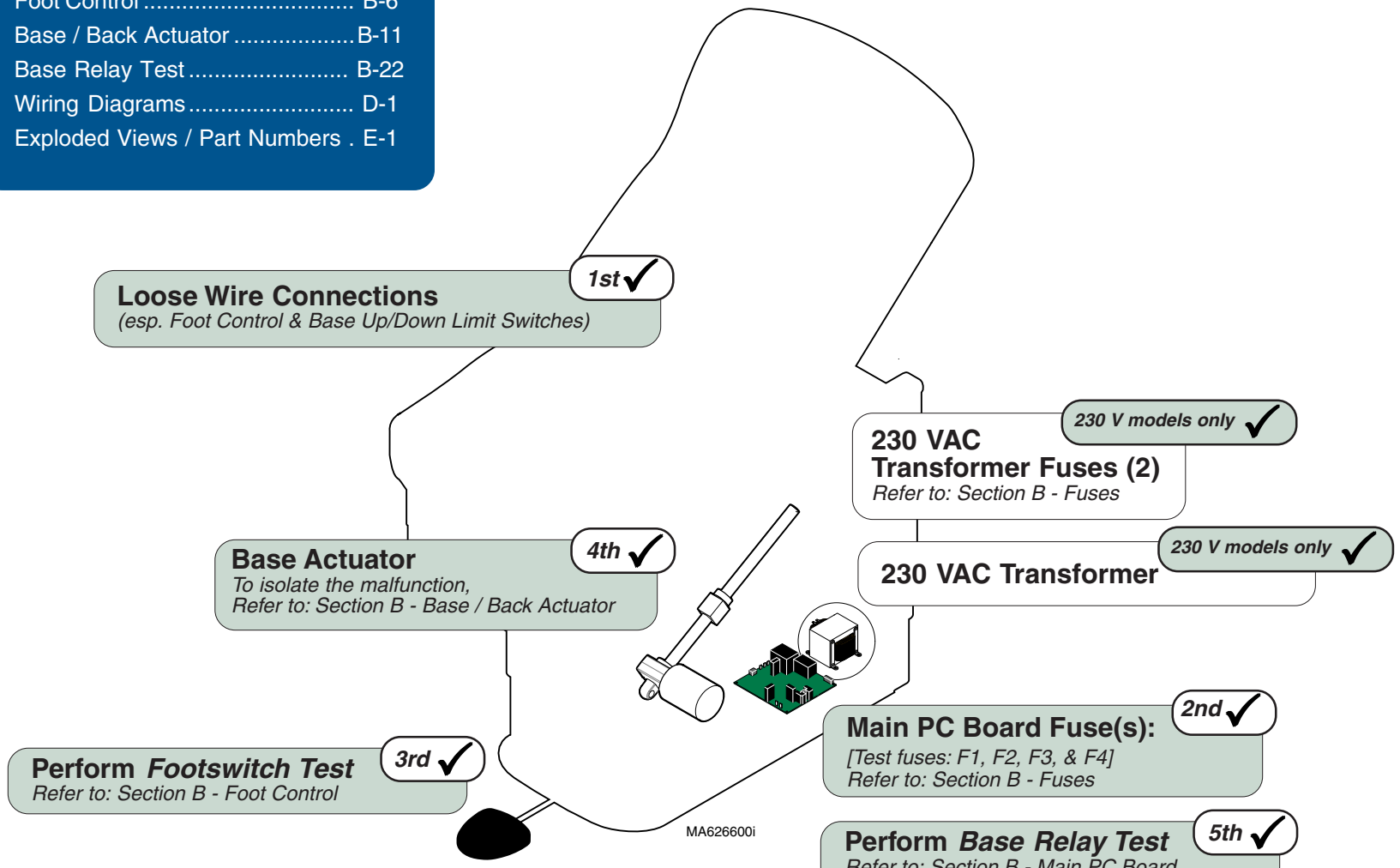
Loose Wire Connections
(esp. Foot Control & Base Up/Down Limit Switches)
1st
230 VAC Transformer Fuses (2)
Refer to: Section B - Fuses
230 V models only
230 VAC Transformer
230 V models only
Base Actuator
To isolate the malfunction,
Refer to: Section B - Base / Back Actuator
4th
Perform Footswitch Test
Refer to: Section B - Foot Control
3rd
Main PC Board Fuse(s):
[Test fuses: F1, F2, F3, & F4]
Refer to: Section B - Fuses
2nd
Perform Base Relay Test
Refer to: Section B - Main PC Board
5th
MA626600i

Base Up / Down

Models: ***All***
Serial Numbers: *All*

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Troubleshooting

Function	*Status*	*Problem*
Base Up		No movement
Base Down		OK

Refer To: *Go To Page:*
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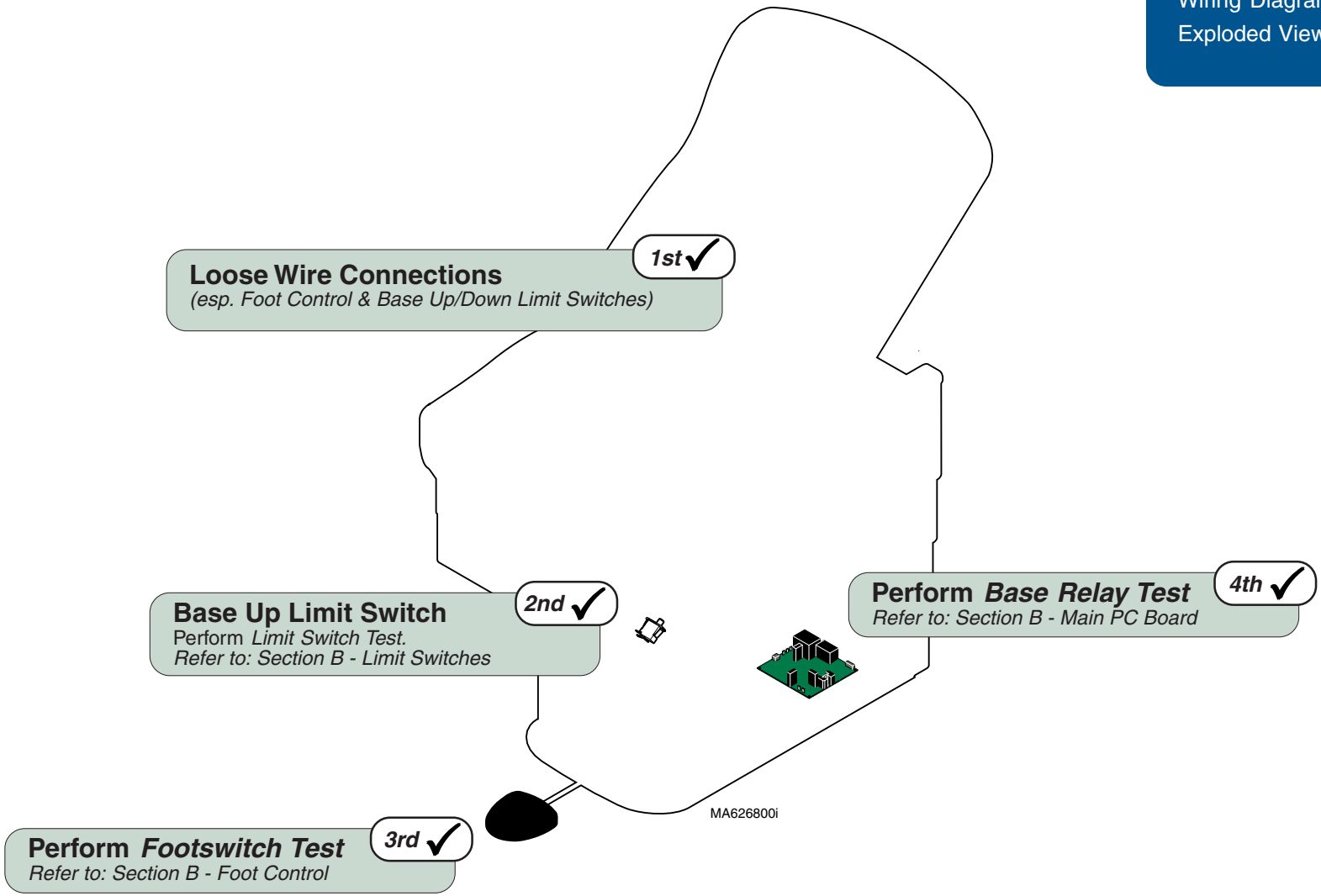
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1



Models: ***All***
Serial Numbers: *All*

Base Up / Down

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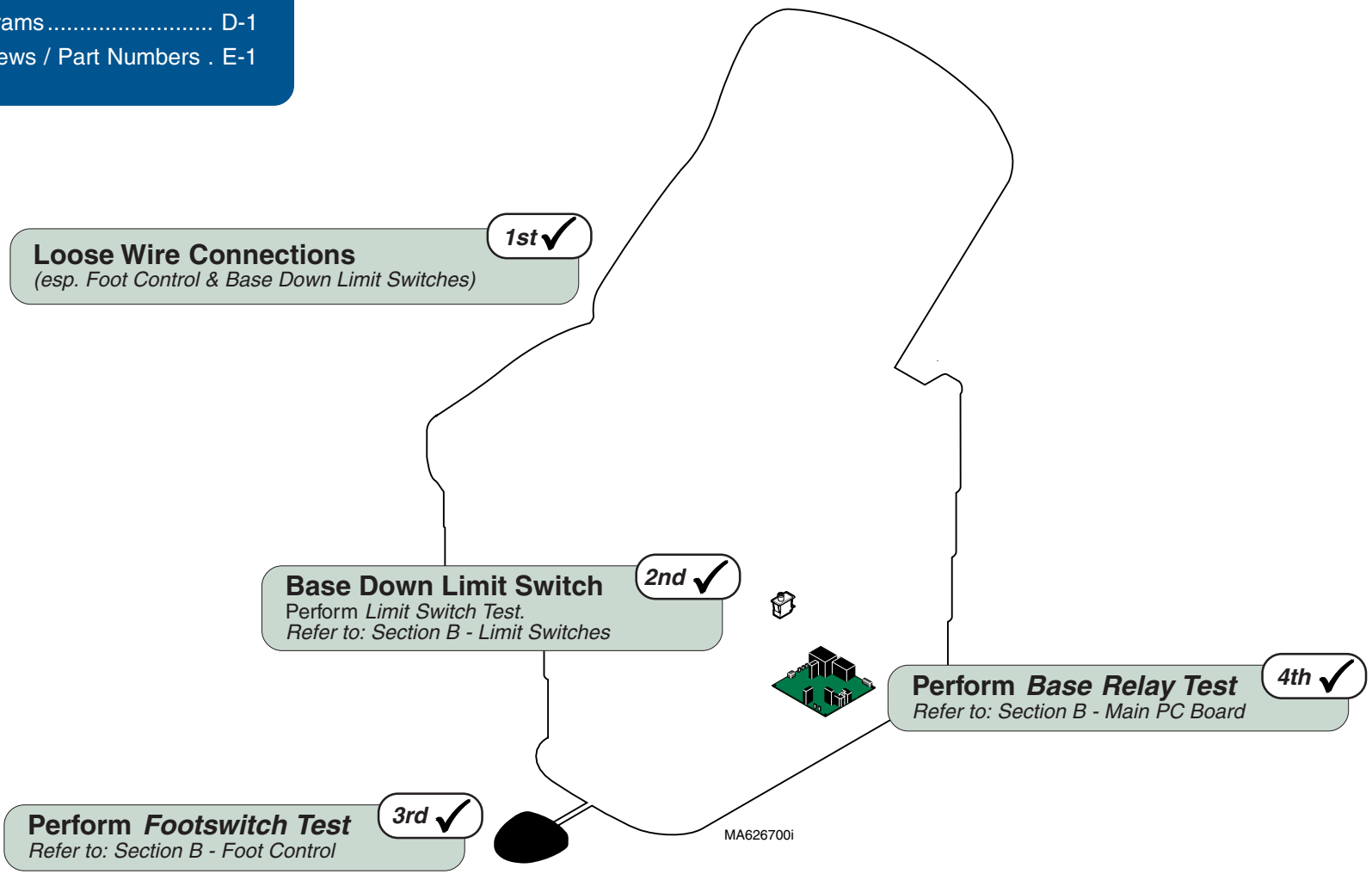
Troubleshooting

Go To Table Of Contents

Function	Status	Problem
Base Up		OK
Base Down		No movement

Refer To: — **Go To Page:**

Limit Switches B-4
Foot Control B-6
Base Relay Test B-22
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1


Loose Wire Connections
(esp. Foot Control & Base Down Limit Switches)
1st ✓
Base Down Limit Switch
Perform Limit Switch Test.
Refer to: Section B - Limit Switches
2nd ✓
Perform Base Relay Test
Refer to: Section B - Main PC Board
4th ✓
Perform Footswitch Test
Refer to: Section B - Foot Control
3rd ✓
MA626700i

Base Up / Down

Models: ***All***
Serial Numbers: *All*

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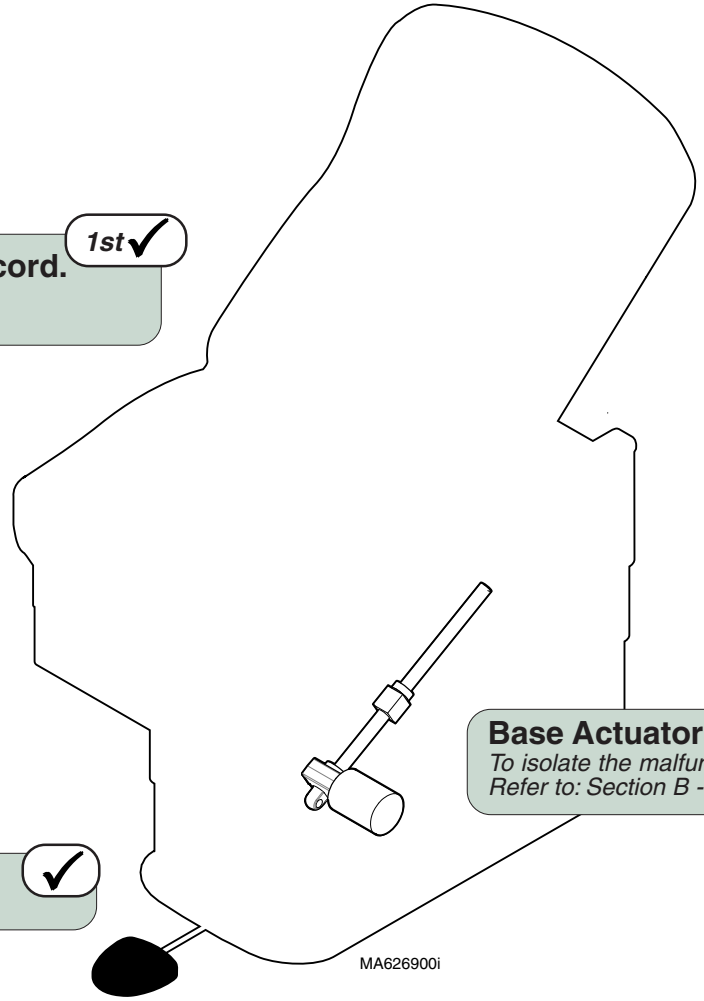
Troubleshooting

Function	Status	Problem
Base Up		Table drifts down.
Base Down		Table drifts down.

Refer To: *Go To Page:*
Foot Control B-6
Base / Back Actuator B-11
Wiring Diagrams D-1
Exploded Views / Part Numbers E-1



Run table up, then unplug power cord. *1st* ✓
If drifting stops, perform *Footswitch Test.*
If drifting continues, check Base Actuator.

Base Actuator ✓
To isolate the malfunction,
Refer to: Section B - Base / Back Actuator

Perform *Footswitch Test* ✓
Refer to: Section B - Foot Control

Models: ***All***
Serial Numbers: *All*

Base Up / Down

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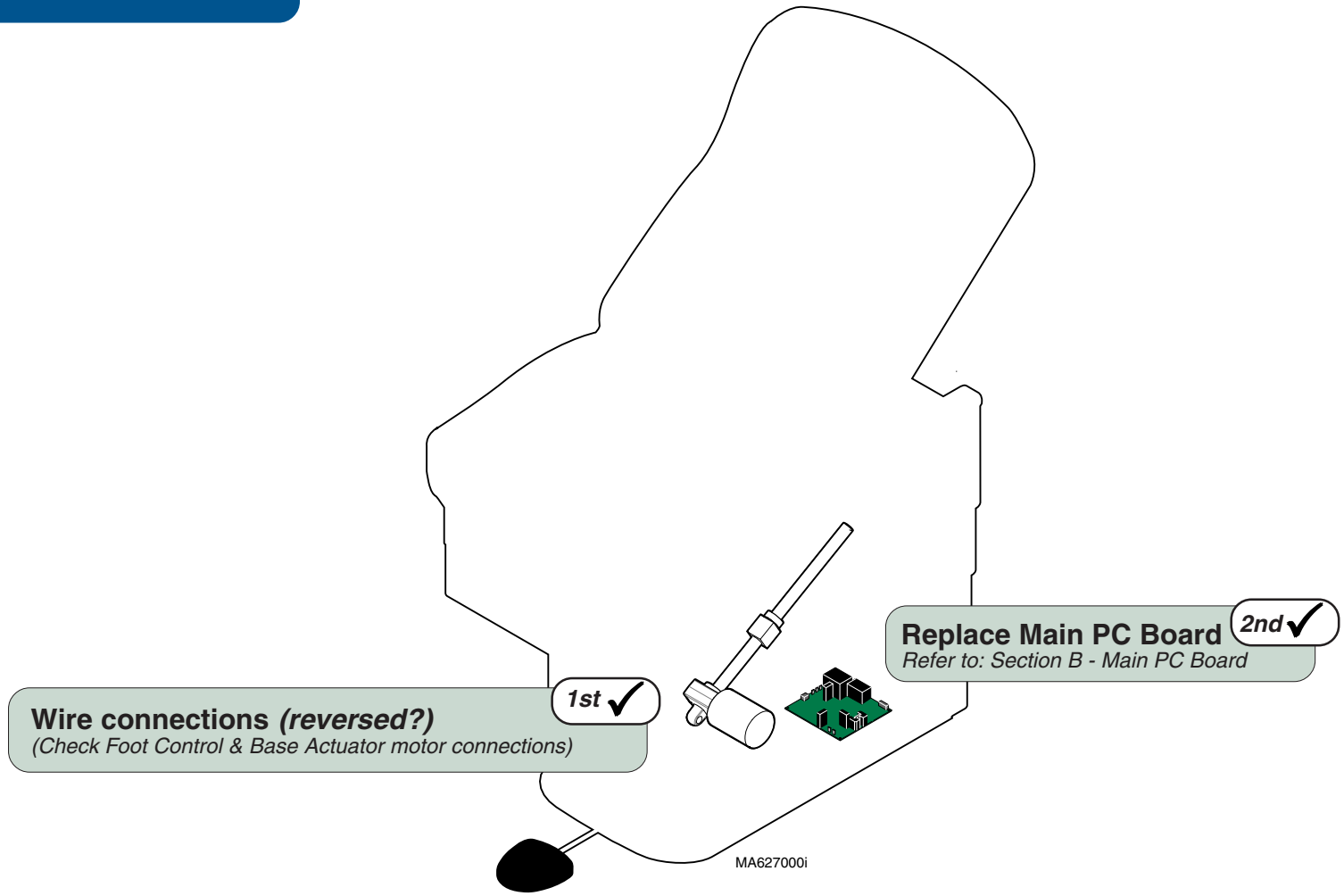
Troubleshooting

Function	Status	Problem
Base Up		Press Base UP pedal, table moves DOWN.
Base Down		Press Base DOWN pedal, table moves UP.

Refer To: *Go To Page:*

Main PC Board Replacement B-24
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1


Wire connections *(reversed?)*
(Check Foot Control & Base Actuator motor connections)
1st ✓
Replace Main PC Board
Refer to: Section B - Main PC Board
2nd ✓
MA627000i

Base Up / Down

Models: ***All***
Serial Numbers: *All*

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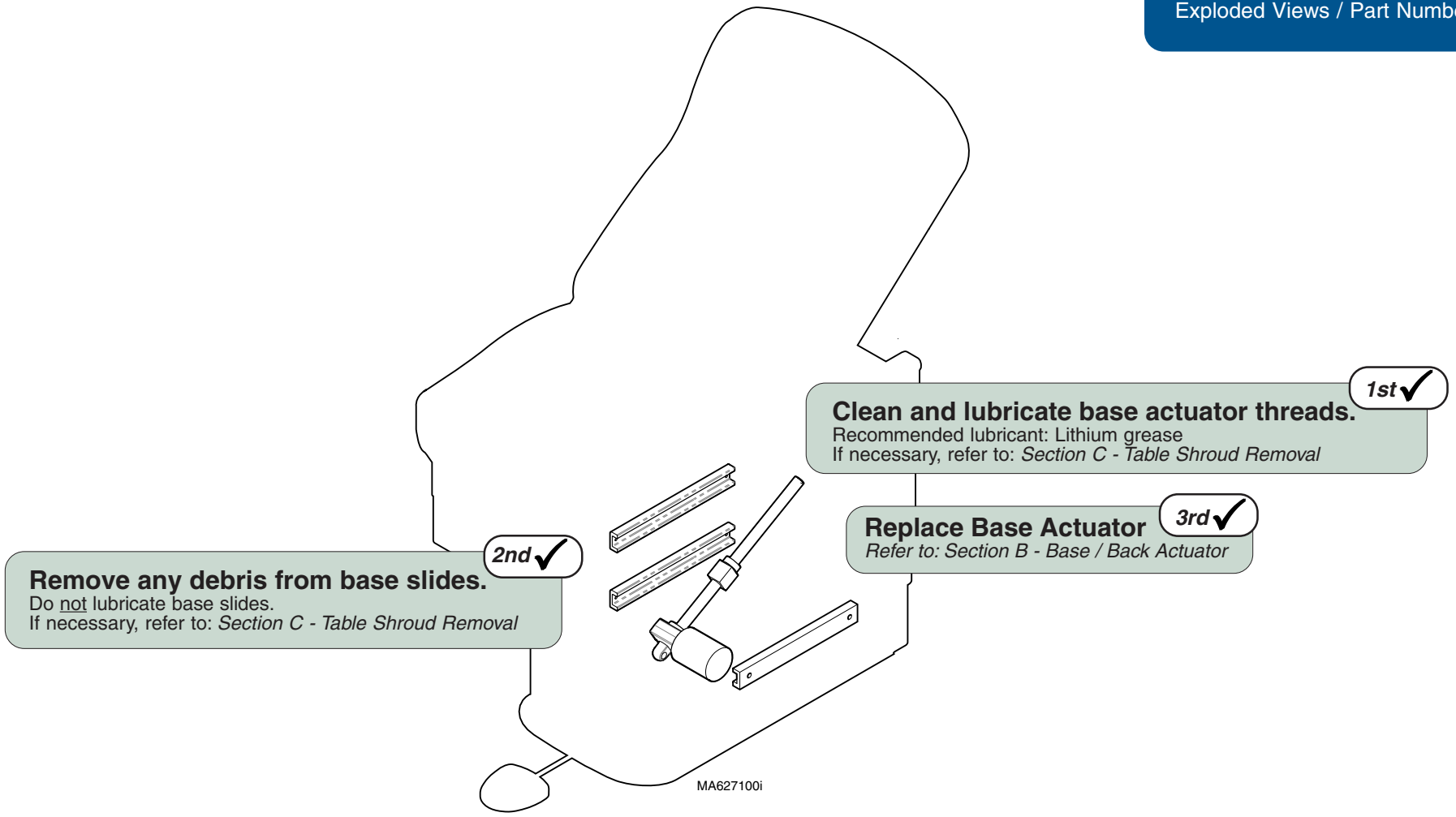
Troubleshooting

Function	Status	Problem
Base Up		Noisy / grinding / squeaking
Base Down		Noisy / grinding / squeaking

Refer To: *Go To Page:*

Base Actuator Replacement B-13
Table Shroud Removal C-2
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1


1st
Clean and lubricate base actuator threads.
Recommended lubricant: Lithium grease
If necessary, refer to: Section C - Table Shroud Removal
3rd
Replace Base Actuator
Refer to: Section B - Base / Back Actuator
2nd
Remove any debris from base slides.
Do not lubricate base slides.
If necessary, refer to: Section C - Table Shroud Removal
MA627100i

Models: All
Serial Numbers: *All*

Base Up / Down

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Troubleshooting

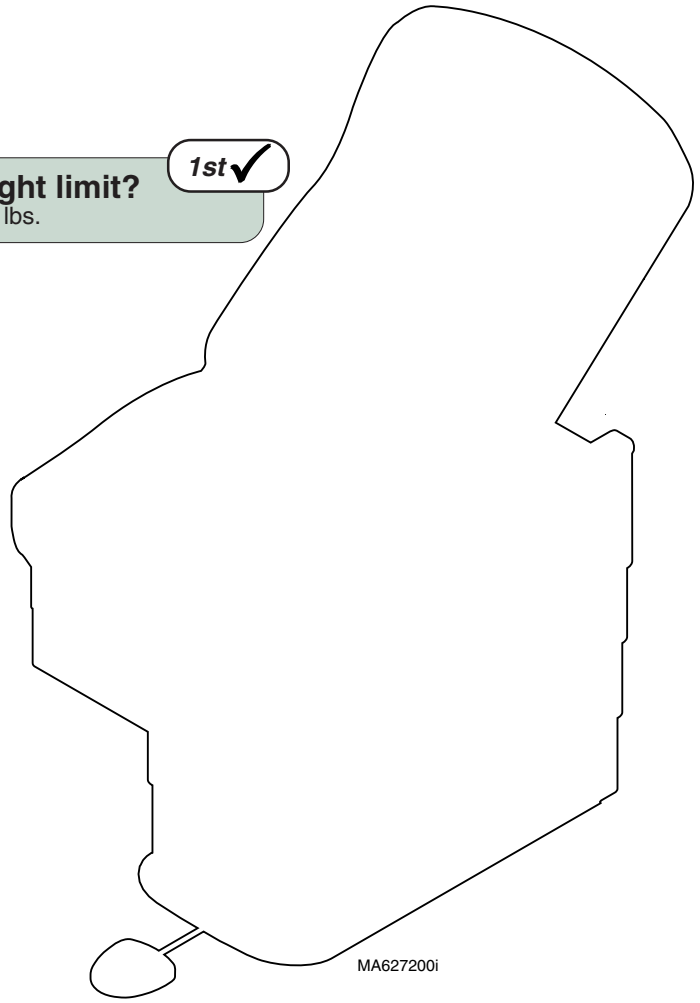
Go To Table Of Contents

Function	Status	Problem
Base Up		Moves slowly
Base Down		Moves slowly

Refer To: **Go To Page:**
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1

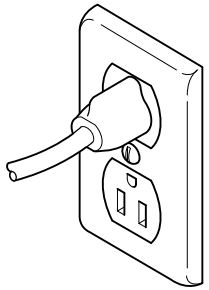
1st ✓

Did patient exceed 400 lb. weight limit?
Inform staff that max. patient weight is 400 lbs.



2nd ✓

Low voltage to table
Required voltage:
115 VAC models..... 115 ±10% VAC
230 VAC models ..... 230 ±10% VAC



Base Up / Down

Models: ***All***
Serial Numbers: *All*

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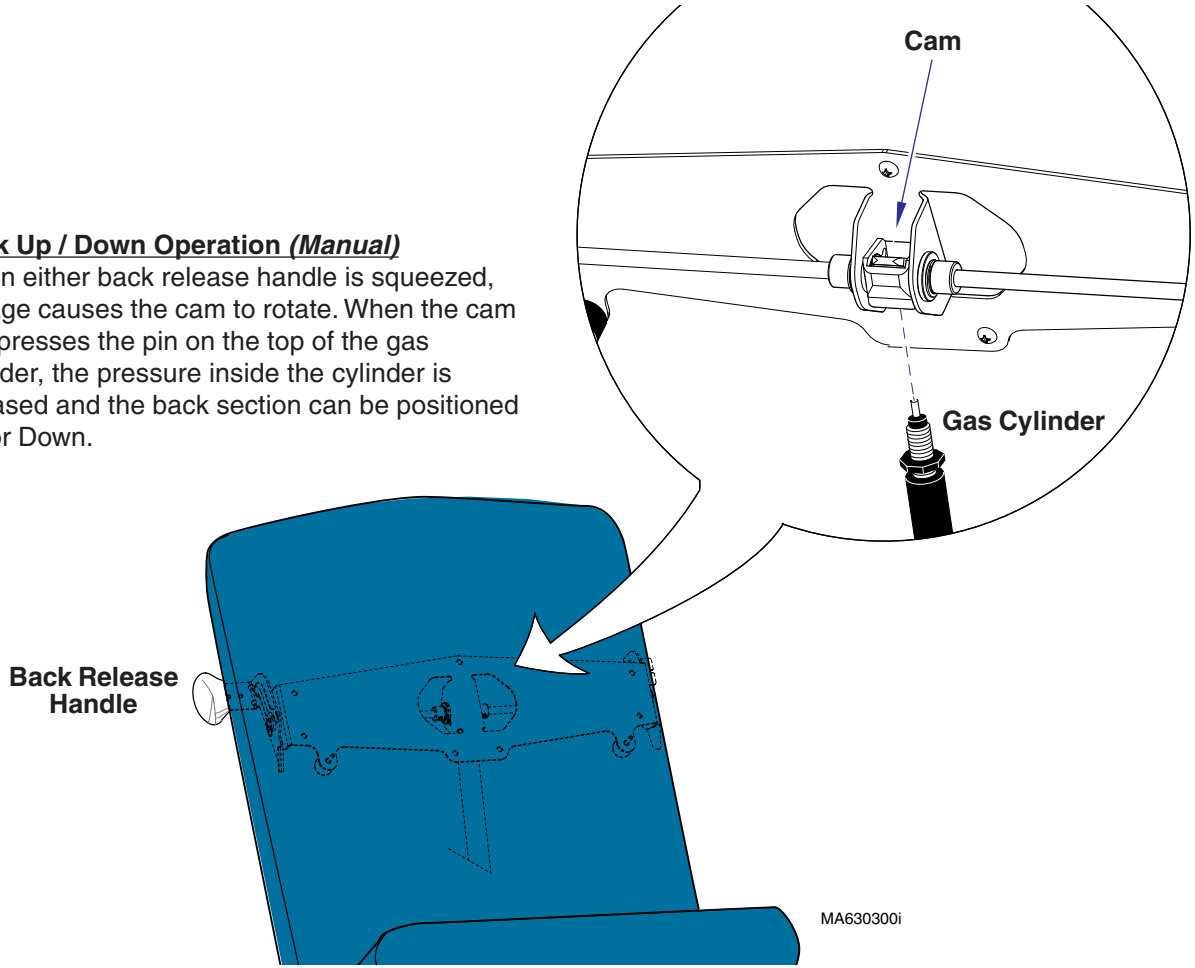
Back UP / DOWN Function (Manual)

This illustration shows only the components that affect the Back UP / DOWN function.

Troubleshooting
[Back Up / Down Function (Manual)]

Problem	***Go To Page:***
Back Drifts Up or Down	A-12
No Movement	A-13
Difficult To Position	A-13

Back Up / Down Operation *(Manual)*
When either back release handle is squeezed, linkage causes the cam to rotate. When the cam compresses the pin on the top of the gas cylinder, the pressure inside the cylinder is released and the back section can be positioned Up or Down.



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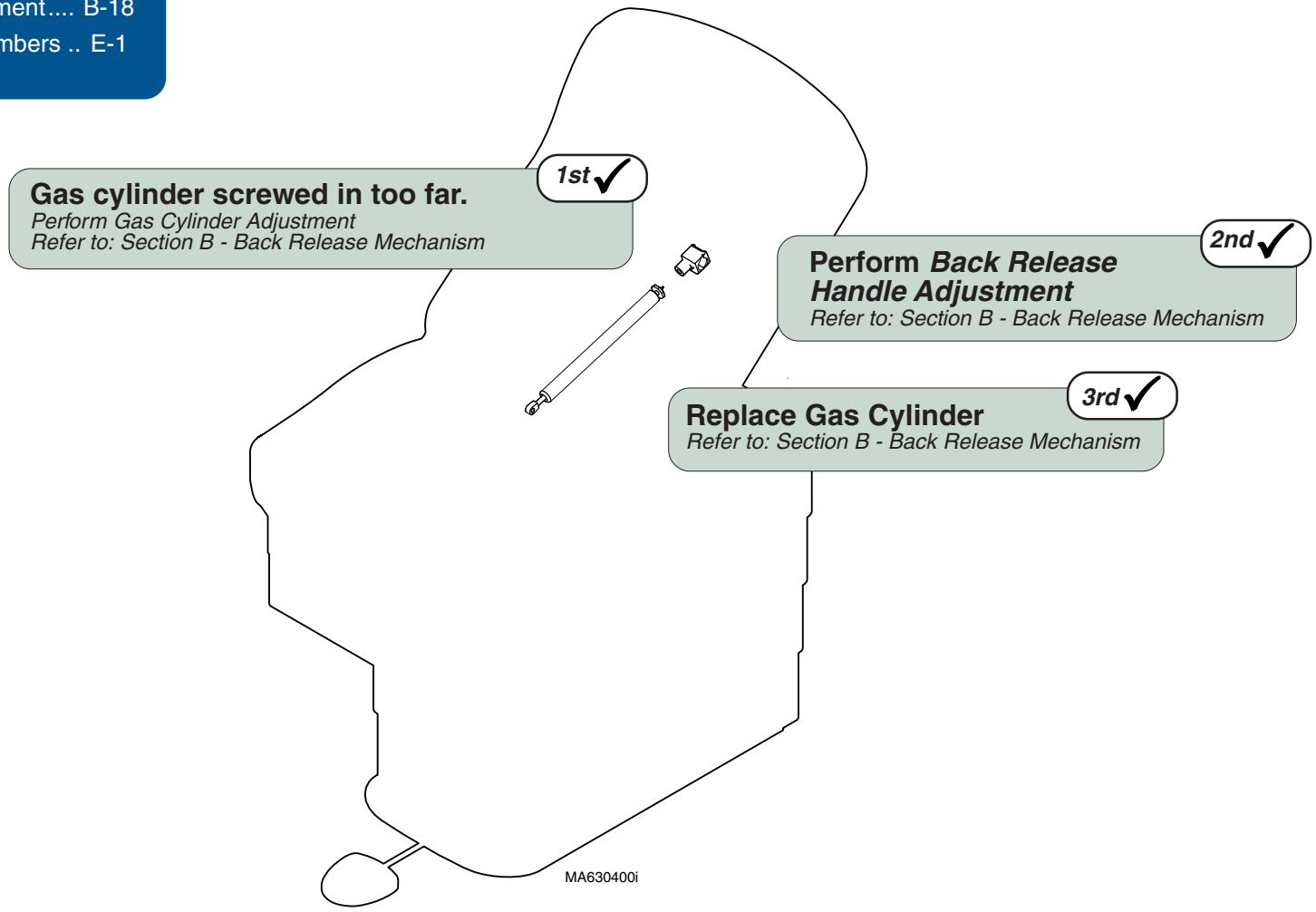
Troubleshooting

Function	Status	Problem
Back Up/Down		Back section drifts

Refer To: **Go To Page:**

Back Release Handle
Adjustment B-17
Gas Cylinder
Replacement & Adjustment.... B-18
Exploded Views / Part Numbers .. E-1


1st
Gas cylinder screwed in too far.
Perform Gas Cylinder Adjustment
Refer to: Section B - Back Release Mechanism
2nd
Perform Back Release Handle Adjustment
Refer to: Section B - Back Release Mechanism
3rd
Replace Gas Cylinder
Refer to: Section B - Back Release Mechanism
MA630400i

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Troubleshooting

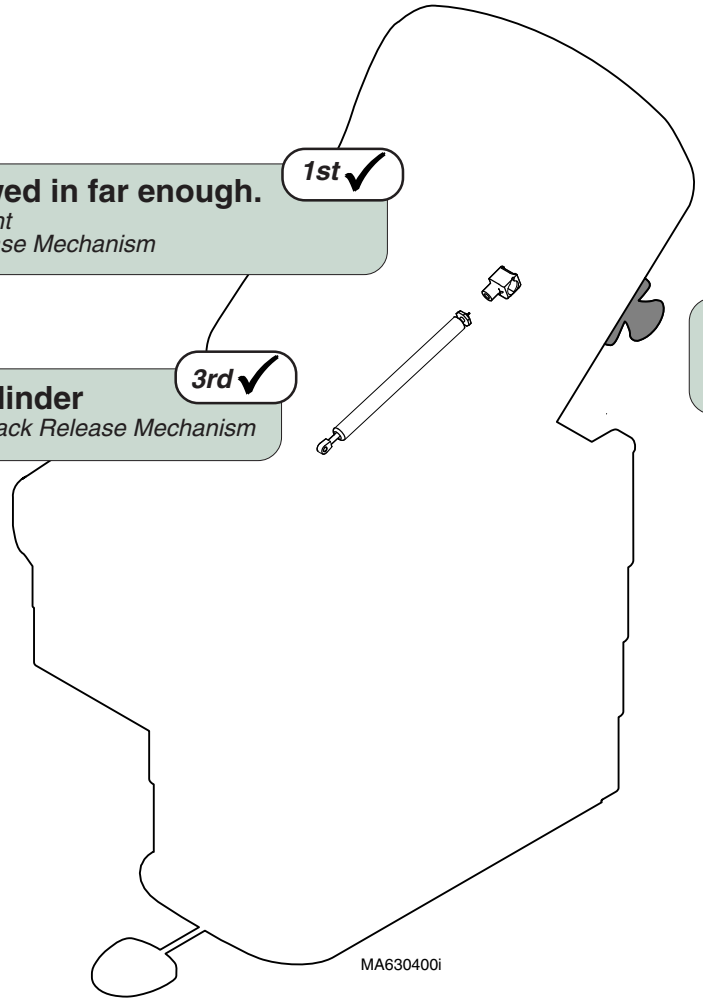
Function	Status	Problem
Back Up/Down		No movement
		Difficult to position

Refer To: — **Go To Page:**
Back Release Handle Adjustment B-17
Gas Cylinder Replacement & Adjustment B-18
Exploded Views / Part Numbers .. E-1

1st ✓ **Gas cylinder not screwed in far enough.**
Perform Gas Cylinder Adjustment
Refer to: Section B - Back Release Mechanism

2nd ✓ **Perform *Back Release Handle Adjustment***
Refer to: Section B - Back Release Mechanism

3rd ✓ **Replace Gas Cylinder**
Refer to: Section B - Back Release Mechanism



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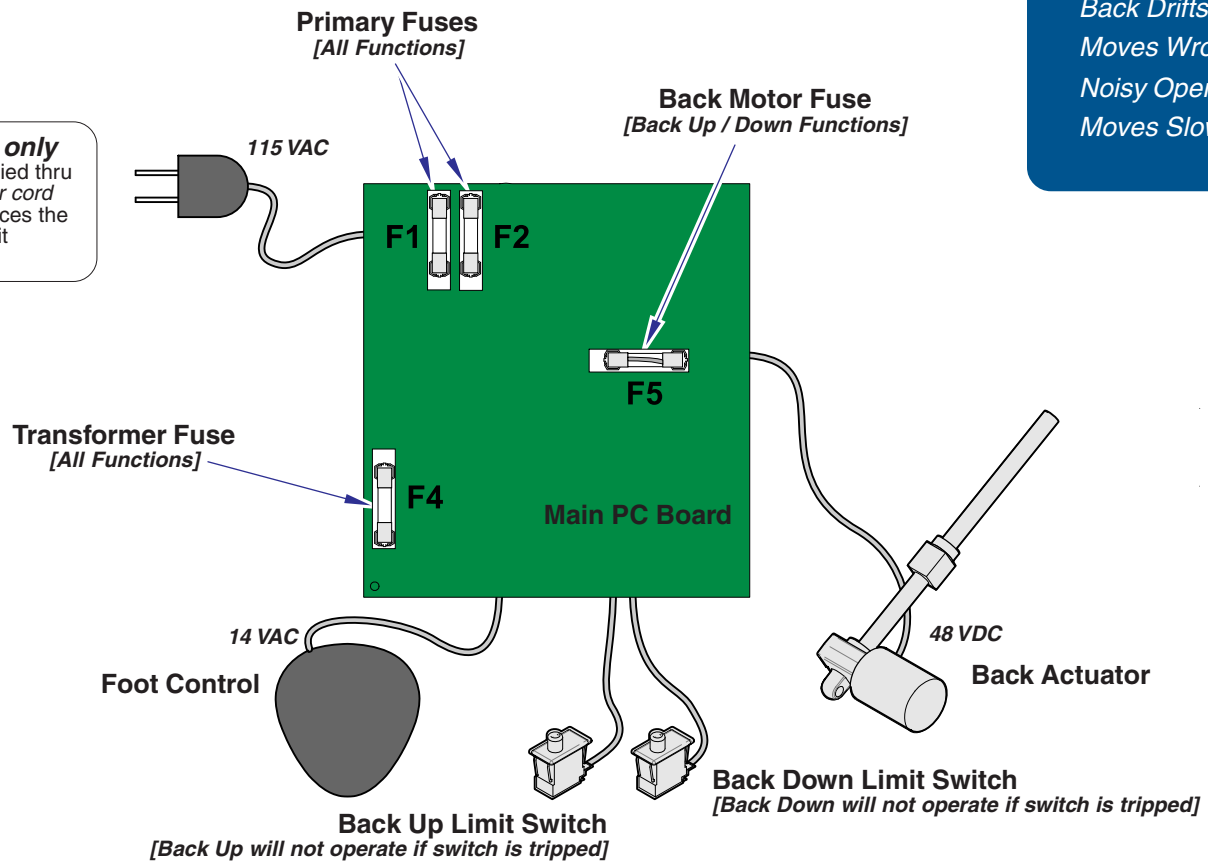
Troubleshooting

Back UP / DOWN Function (Power)

This illustration shows only the components that affect the Back UP / DOWN function.
Refer to the following page for a detailed description of current flow during this function.

NOTE: *230 VAC models only*
Line voltage (230 VAC) is supplied thru two fuses *(located by the power cord inlet)* to a transformer that reduces the line voltage to 115 VAC before it reaches the PC Board.



Troubleshooting
[Back Up / Down Function (Power)]

Problem — **Go To Page:**

No UP or DOWN Functions A-16
No DOWN Function (UP - OK) A-17
No UP Function (DOWN - OK) A-18
Back Drifts Down A-19
Moves Wrong Direction A-20
Noisy Operation A-21
Moves Slowly A-22

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Back UP / DOWN Function (Power)

NOTE
On 230 VAC models, line voltage *(230 VAC)* is supplied thru two fuses *(located by IEC inlet)* to a transformer that reduces the line voltage to 115 VAC before it gets to the PC board.

Power To Foot Control
115 VAC is supplied thru the two primary fuses *(F1 & F2)* to the transformer on the PC board. *[F4 fuse protects the transformer]*.

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Back Up Operation

NOTE
If the Back Up limit switch is tripped (open), the Back Up function will not operate.

When the Back Up function is activated, current *(14 VAC)* flows thru the Up function foot switch *(N.O)*, then back to the PC board. Circuitry on the PC Board energizes the back relay. *[F5 fuse protects the back motor]*.

NOTE
The Back Up/Down relay has four contacts:
(2) Normally Open: Back Up function
(2) Normally Closed: Back Down function

When the back relay is energized, the (2) Normally Open contacts of the relay close. When these contacts close, current *(48 VDC)* flows to the actuator motor.

When current flows to the actuator thru the Normally Open contacts of the relay, the actuator motor runs and raises the back section.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Back Up limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Back Motor, Transformer fuse]

Back Down Operation

NOTE
If the Back Down limit switch is tripped (open), the Back Down function will not operate.

When the Back Down function is activated, current *(14 VAC)* flows thru the Down function foot switch *(N.O.)*, then back to the PC Board.

NOTE
The Back Up/Down relay has four contacts:
(2) Normally Open: Back Up function
(2) Normally Closed: Back Down function

When this voltage is applied, current *(48 VDC)* flows to the actuator motor thru the (2) Normally Closed contacts of the Back Up/Down relay. *[The relay does <u>not</u> energize].*

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs and lowers the back section.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Back Down limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Back Motor, Transformer fuse]

Equipment Alert
If an overload condition is detected the PC board will "beep" and <u>all</u> power functions will be disabled. Release the function button, remove load, then retry function.*
**(weight limit exceeded, mechanical binding, etc),*

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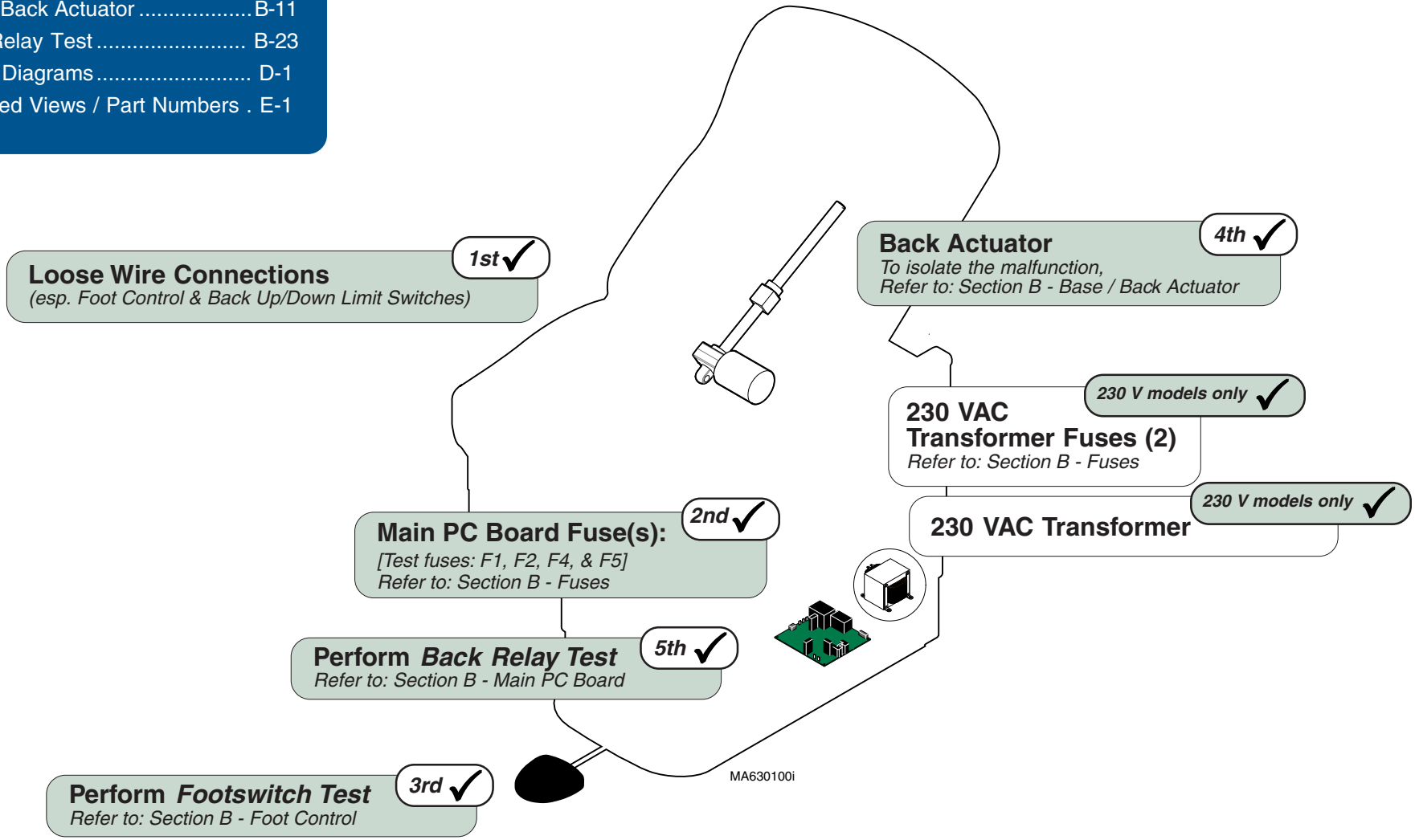
Troubleshooting

Function	Status	Problem
Back Up		No movement
Back Down		No movement

Refer To: — **Go To Page:**

Fuses B-2
Limit Switches B-4
Foot Control B-6
Base / Back Actuator B-11
Back Relay Test B-23
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1


1st ✓
Loose Wire Connections
(esp. Foot Control & Back Up/Down Limit Switches)
4th ✓
Back Actuator
To isolate the malfunction,
Refer to: Section B - Base / Back Actuator
230 V models only ✓
230 VAC
Transformer Fuses (2)
Refer to: Section B - Fuses
230 V models only ✓
230 VAC Transformer
2nd ✓
Main PC Board Fuse(s):
[Test fuses: F1, F2, F4, & F5]
Refer to: Section B - Fuses
5th ✓
Perform Back Relay Test
Refer to: Section B - Main PC Board
3rd ✓
Perform Footswitch Test
Refer to: Section B - Foot Control
MA630100i

Back Up / Down
Power

Models:	***223 (all)***	***623 (all)***
Serial Numbers:	*All*	*All*

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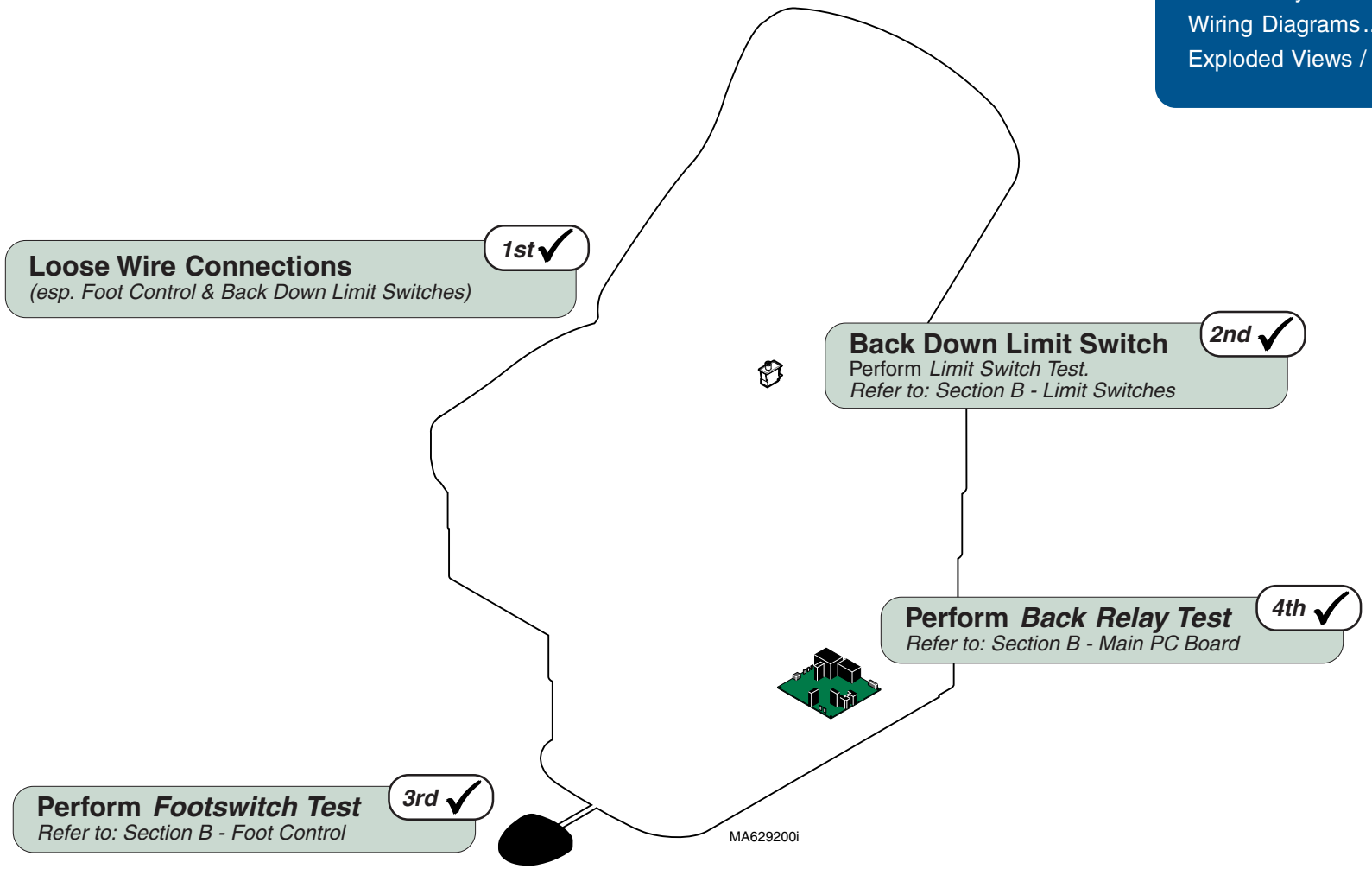
Troubleshooting

Function	Status	Problem
Back Up		OK
Back Down		No movement

Refer To: — **Go To Page:**

Limit Switches B-4
Foot Control B-6
Back Relay Test B-23
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1


Loose Wire Connections
(esp. Foot Control & Back Down Limit Switches)
1st ✓
Back Down Limit Switch
Perform Limit Switch Test.
Refer to: Section B - Limit Switches
2nd ✓
Perform Back Relay Test
Refer to: Section B - Main PC Board
4th ✓
Perform Footswitch Test
Refer to: Section B - Foot Control
3rd ✓
MA629200i

Models:	223 (all)	623 (all)
Serial Numbers:	All	All

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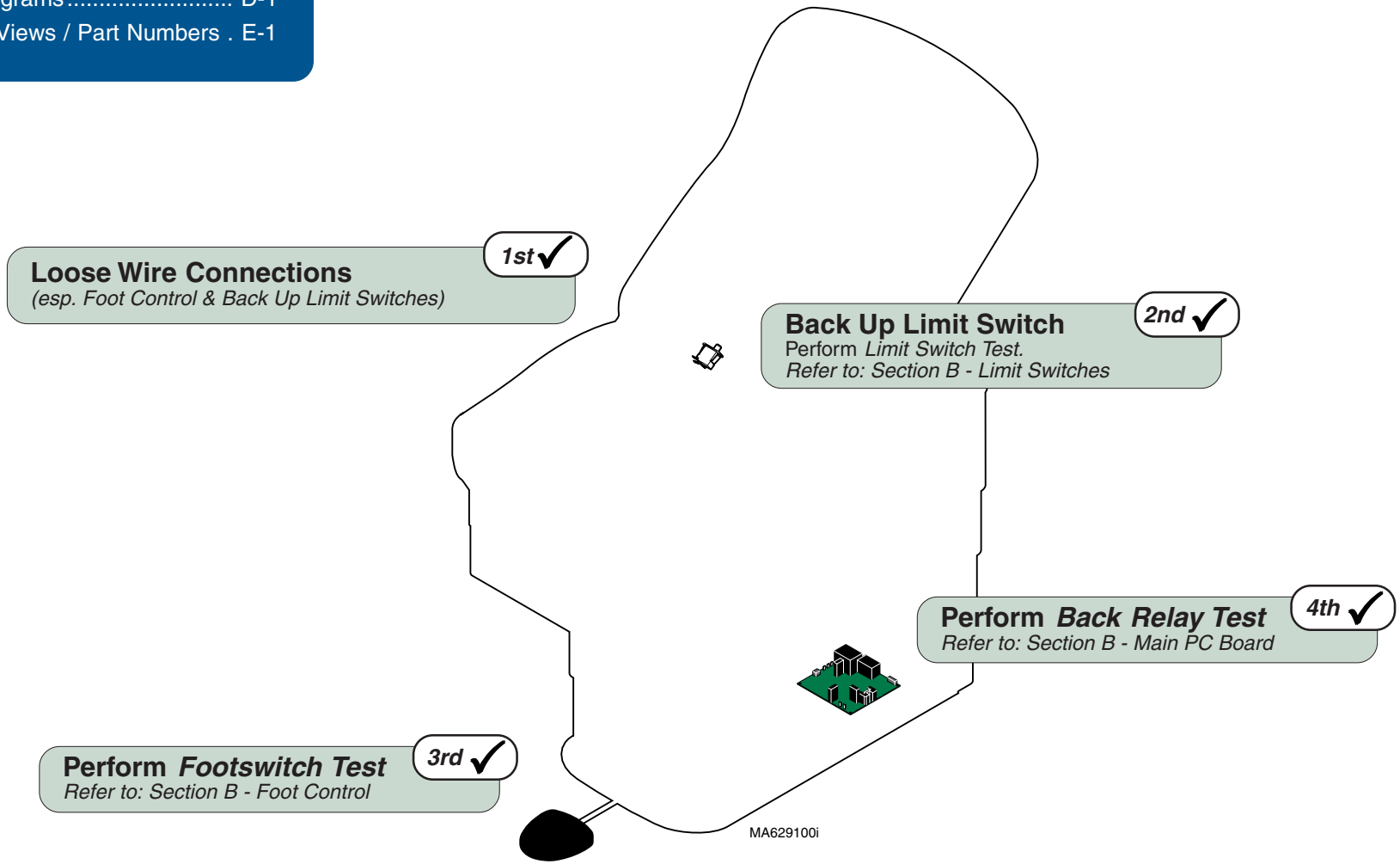
Troubleshooting

Go To Table Of Contents

Function	Status	Problem
Back Up		No movement
Back Down		OK

Refer To: — **Go To Page:**

Limit Switches B-4
Foot Control B-6
Back Relay Test B-23
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1



Back Up / Down
Power

Models:	223 (all)	623 (all)
Serial Numbers:	All	All

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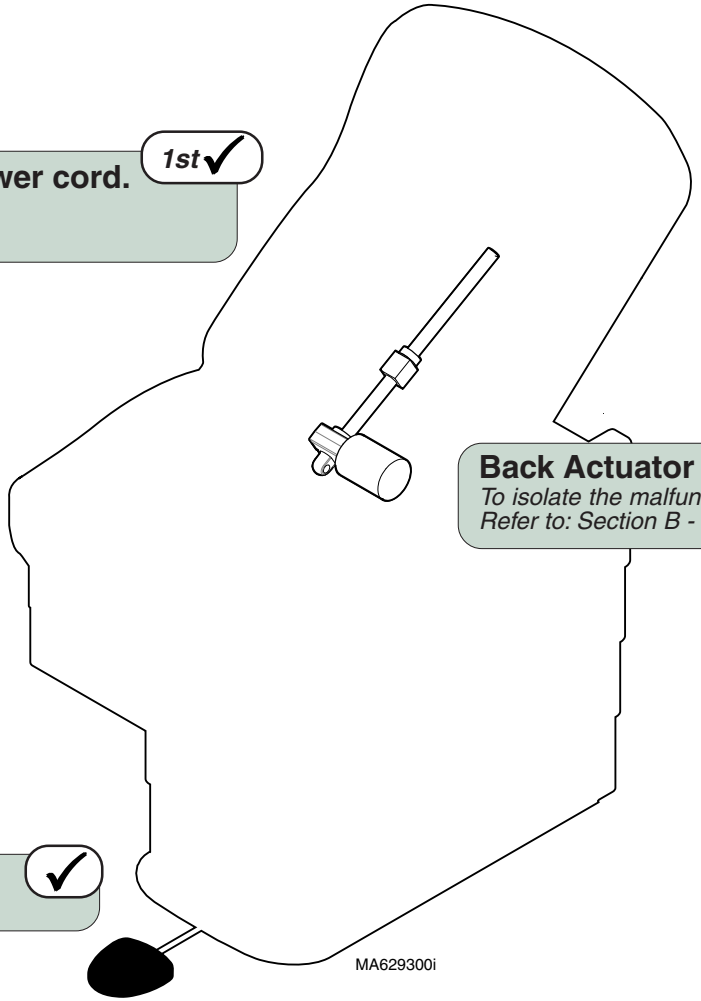
Troubleshooting

Function	Status	Problem
Back Up		Back drifts down.
Back Down		Back drifts down.

Refer To: *Go To Page:*
Foot Control B-6
Base / Back Actuator B-11
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1

Run back section up, then unplug power cord. *1st* ✓
If drifting stops, perform *Footswitch Test*.
If drifting continues, check Back Actuator.



Back Actuator ✓
To isolate the malfunction,
Refer to: Section B - Base / Back Actuator

Perform *Footswitch Test* ✓
Refer to: Section B - Foot Control

Models: *Serial Numbers:*	***223 (all)*** *All*	***623 (all)*** *All*

Back Up / Down
Power

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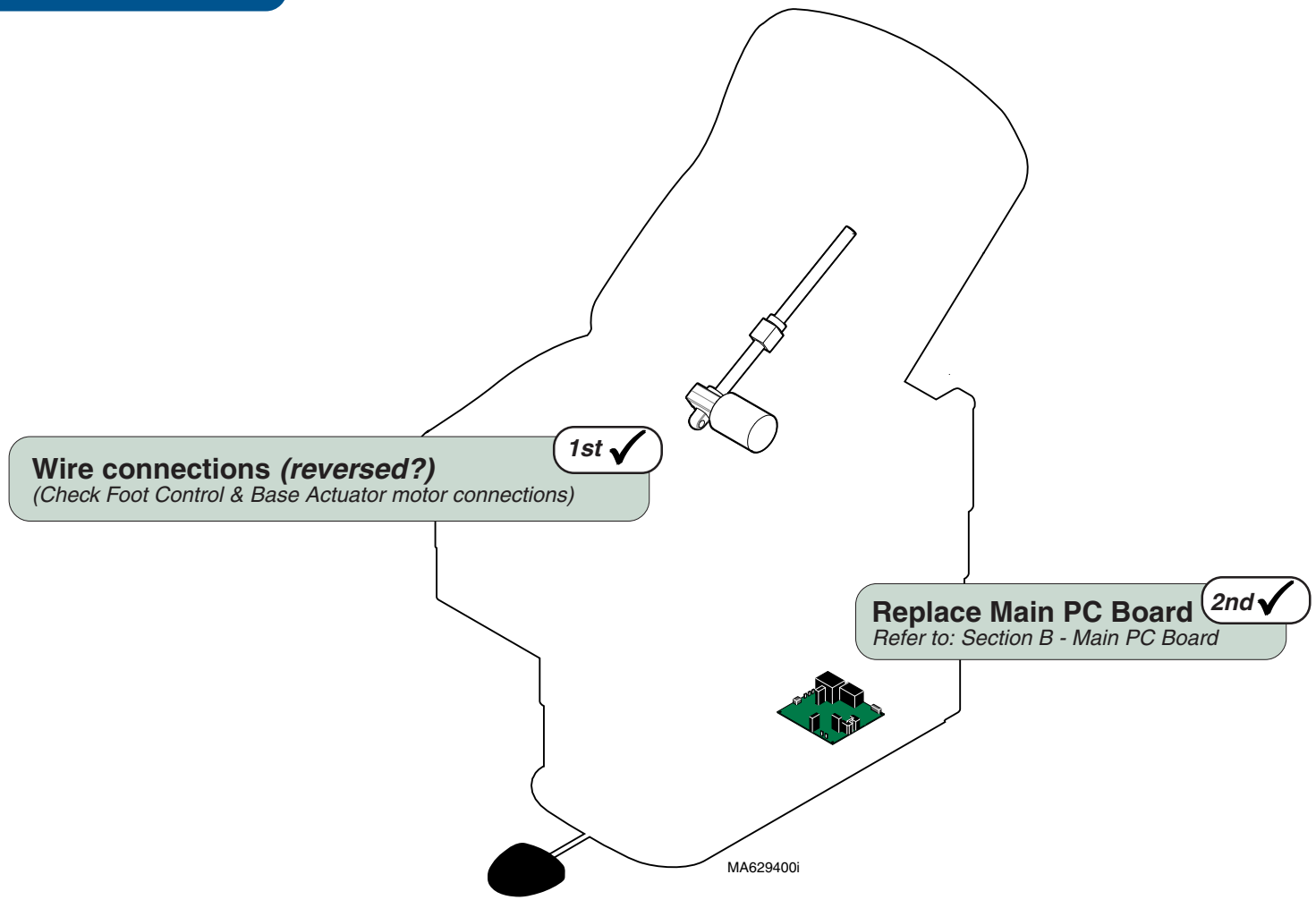
Troubleshooting

Function	Status	Problem
Back Up		Press Back UP pedal, back section moves DOWN.
Back Down		Press Back DOWN pedal, back section moves UP.

Refer To: *Go To Page:*
Main PC Board Replacement B-24
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1


Wire connections *(reversed?)*
(Check Foot Control & Base Actuator motor connections)
1st ✓
Replace Main PC Board
Refer to: Section B - Main PC Board
2nd ✓
MA629400i

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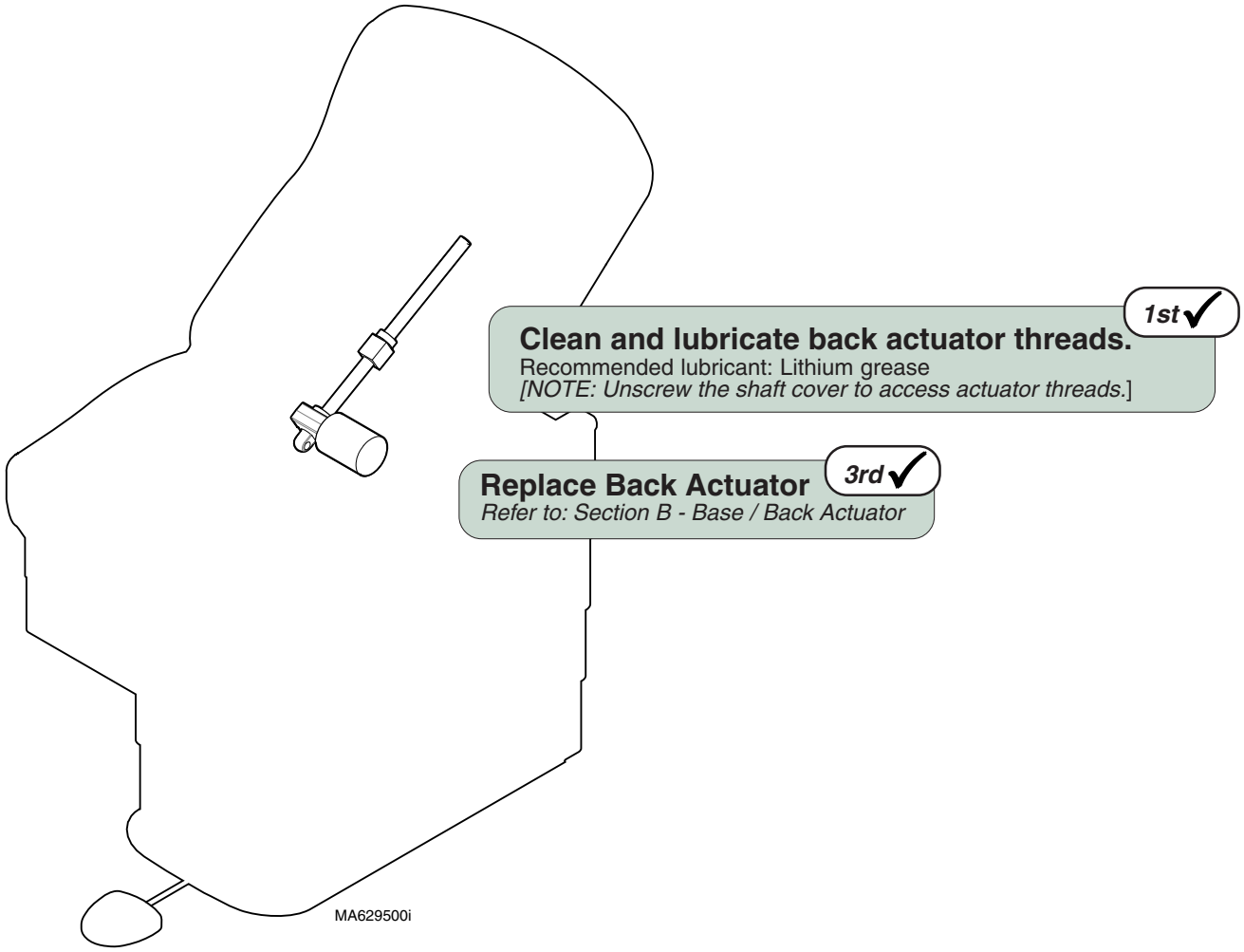
Troubleshooting

Function	*Status*	*Problem*
Back Up		Noisy / grinding / squeaking
Back Down		Noisy / grinding / squeaking

Refer To: *Go To Page:*

Back Actuator Replacement B-15
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1



Models:	*223 (all)*	*623 (all)*
Serial Numbers:	*All*	*All*

Back Up / Down
Power

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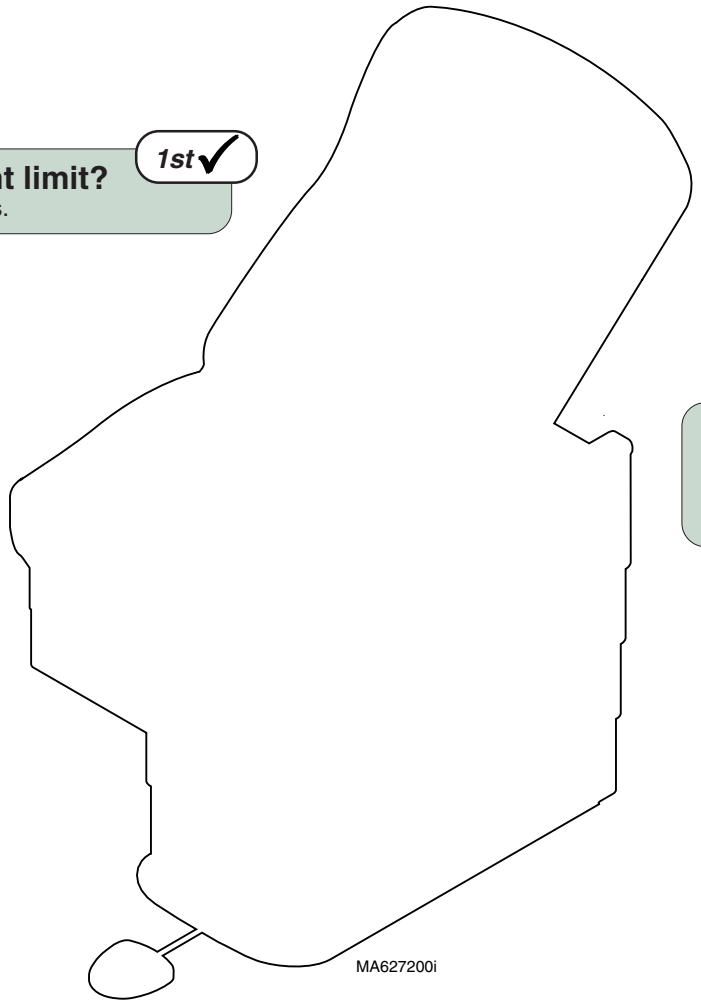
Troubleshooting

Go To Table Of Contents

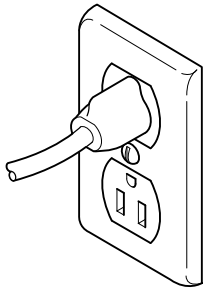
Function	Status	Problem
Back Up		Moves slowly
Back Down		Moves slowly

Refer To: *Go To Page:*
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1

Did patient exceed 400 lb. weight limit? *1st* ✓
Inform staff that max. patient weight is 400 lbs.



Low voltage to table *2nd* ✓
Required voltage:
115 VAC models ..... 115 ±10% VAC
230 VAC models ..... 230 ±10% VAC



Back Up / Down
Power

Models:	***223 (all)***	***623 (all)***
Serial Numbers:	*All*	*All*

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Drawer Heater System (optional)

This illustration shows only the components that affect the drawer heater system.
A detailed description of current flow during this function also appears below.

Troubleshooting
[Drawer Heater System]

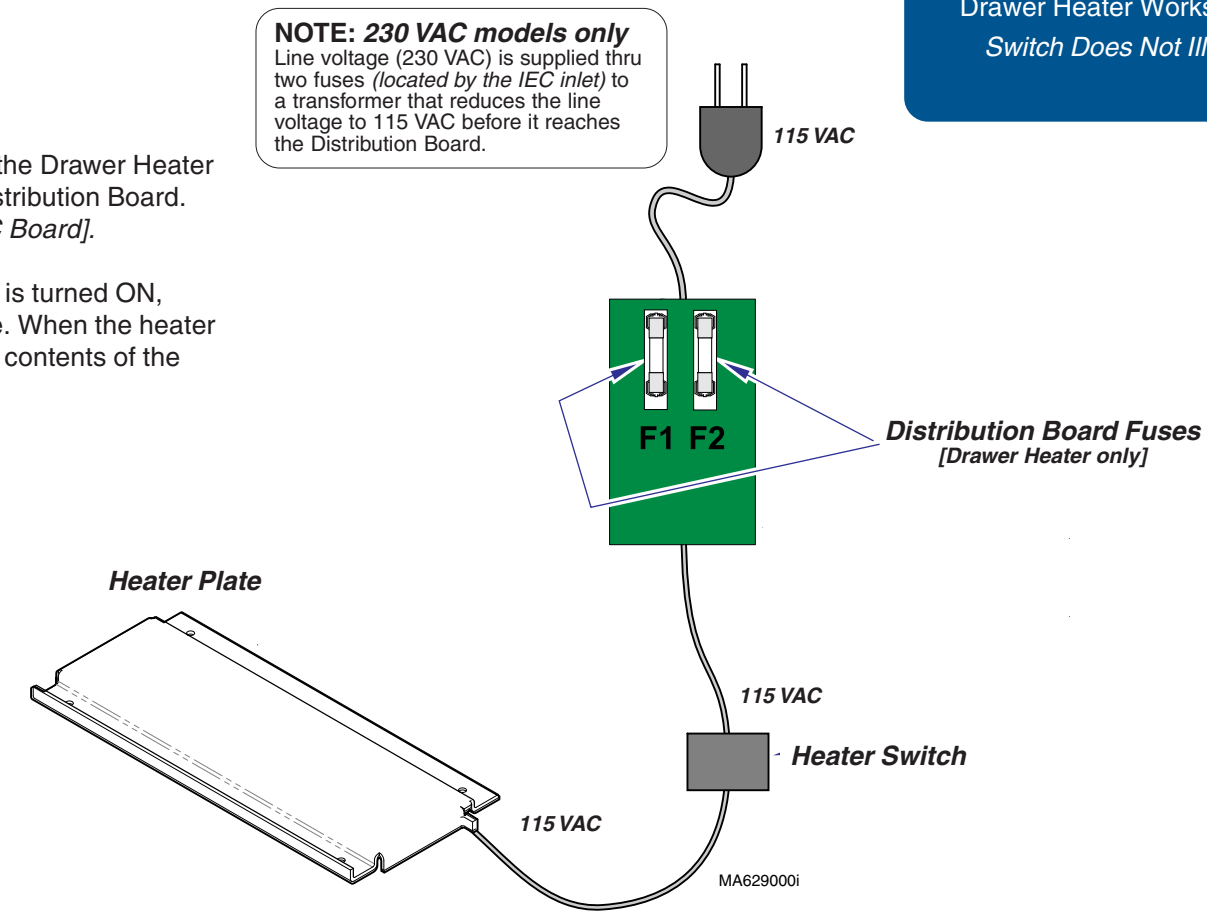
Problem — *Go To Page:*

Drawer Heater Does Not Warm Up:
Switch Does Not Illuminate A-24
Switch Illuminates A-25
Drawer Heater Works Properly:
Switch Does Not Illuminate A-26

NOTE: *230 VAC models only*
Line voltage (230 VAC) is supplied thru two fuses *(located by the IEC inlet)* to a transformer that reduces the line voltage to 115 VAC before it reaches the Distribution Board.

Drawer Heater Operation
115 VAC is supplied directly to the Drawer Heater switch thru two fuses on the Distribution Board. *[Voltage bypasses the Main PC Board].*

When the drawer heater switch is turned ON, current flows to the heater plate. When the heater plate is energized, it warms the contents of the drawer.



Models:	222	223	622	623
Serial Numbers:	(-003 /-004 /-007 /-008 /-010 /-016) All	(-003 /-004 /-007 /-008 /-010 /-016) All	(-002/-004/-006/-008) All	(-002/-004/-008/-010/-011) All

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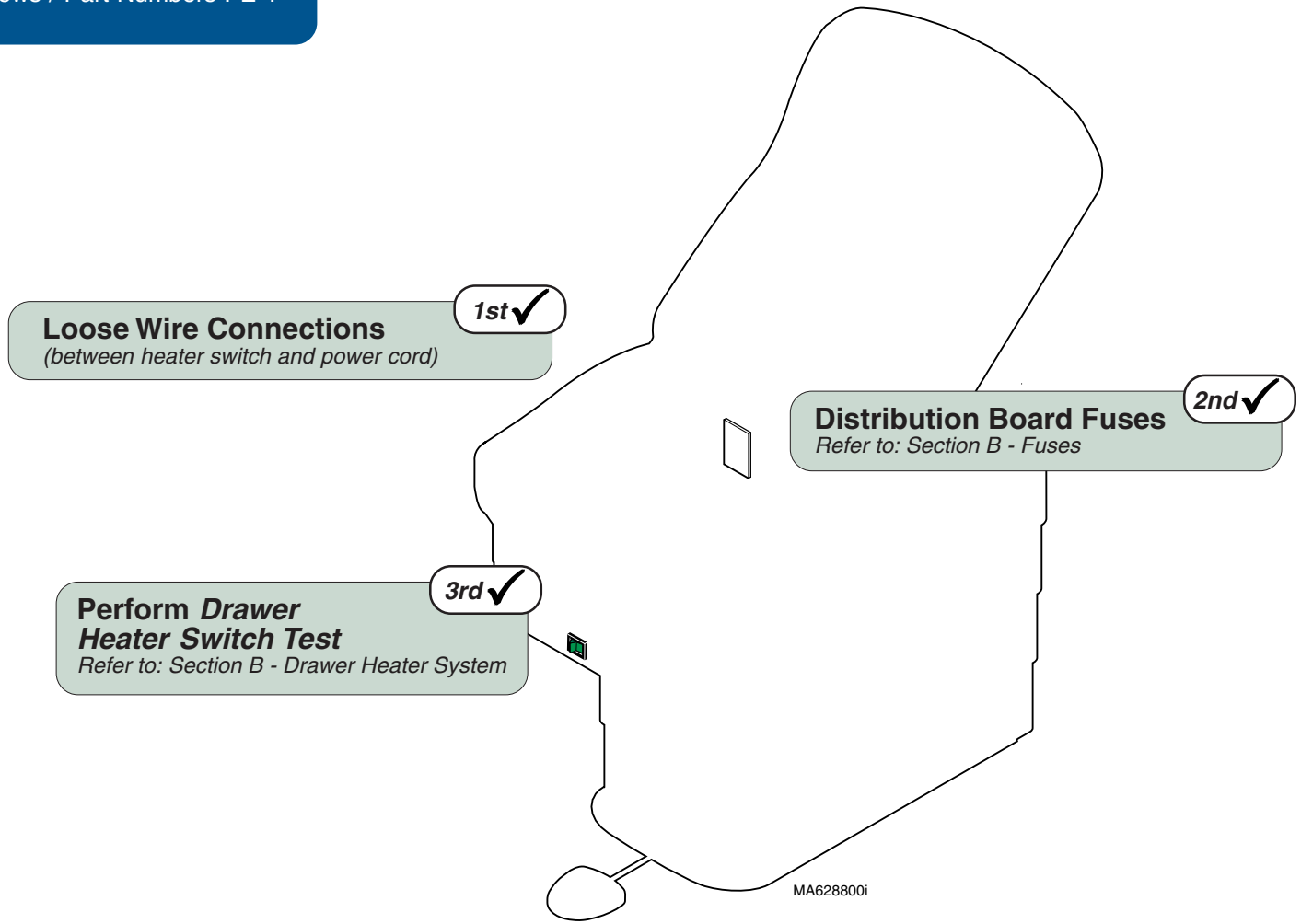
Troubleshooting

Function	Status	Problem
Drawer Heater		Does not heat up.
Heater Switch		Does not illuminate

Refer To: **Go To Page:**

Fuses B-2
Drawer Heater System B-25
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1



Drawer Heater System

Models: / Serial Numbers:	222 (-003/-004/-007/-008/-010/-016) All	223 (-003/-004/-007/-008/-010/-016) All	622 (-002/-004/-006/-008) All	623 (-002/-004/-008/-010/-011) All

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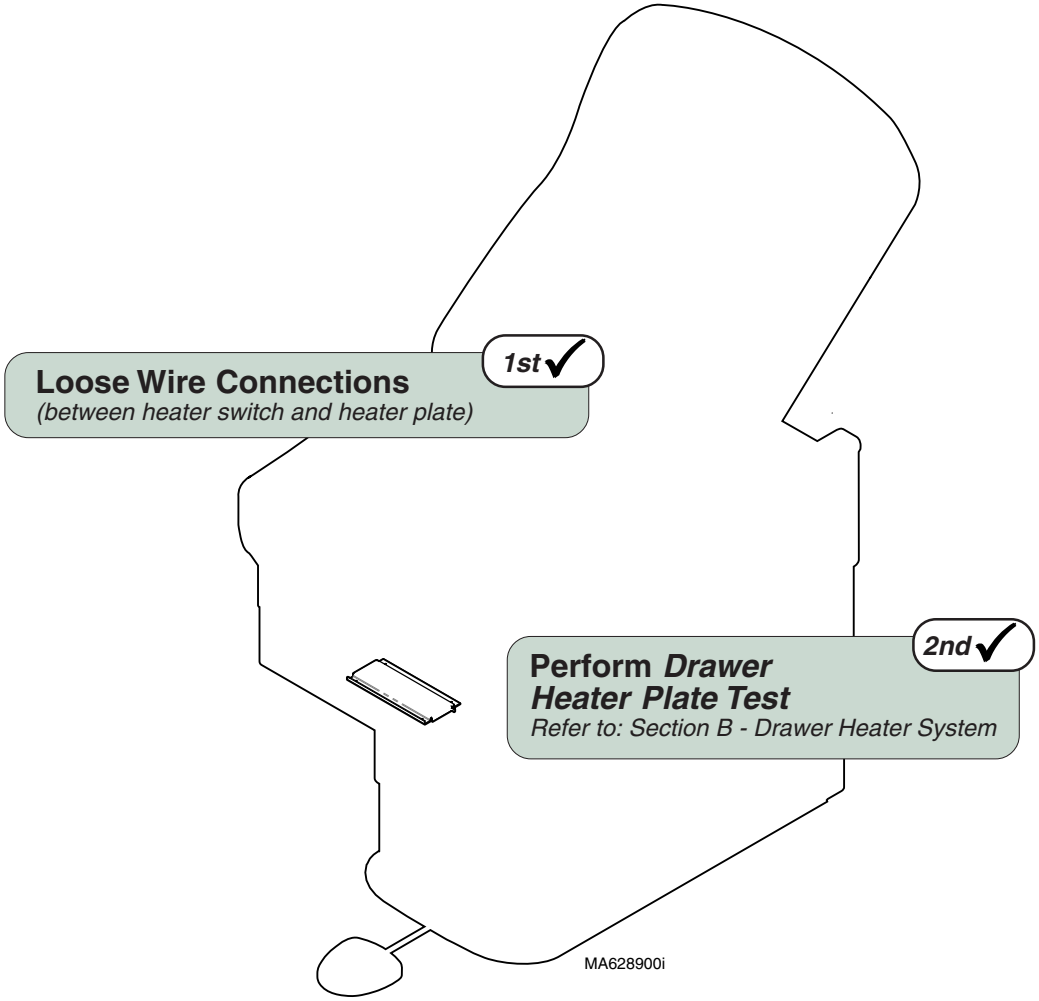
Rev. 1/16/13

Troubleshooting

Function	*Status*	*Problem*
Drawer Heater		Does not heat up.
Heater Switch		OK *(Illuminates)*

Refer To: **Go To Page:**

Fuses B-2
Drawer Heater System B-25
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1



Models: Serial Numbers:	222 (-003 /-004 /-007 /-008 /-010 /-016) All	223 (-003 /-004 /-007 /-008 /-010 /-016) All	622 (-002/-004/-006/-008) All	623 (-002/-004/-008/-010/-011) All

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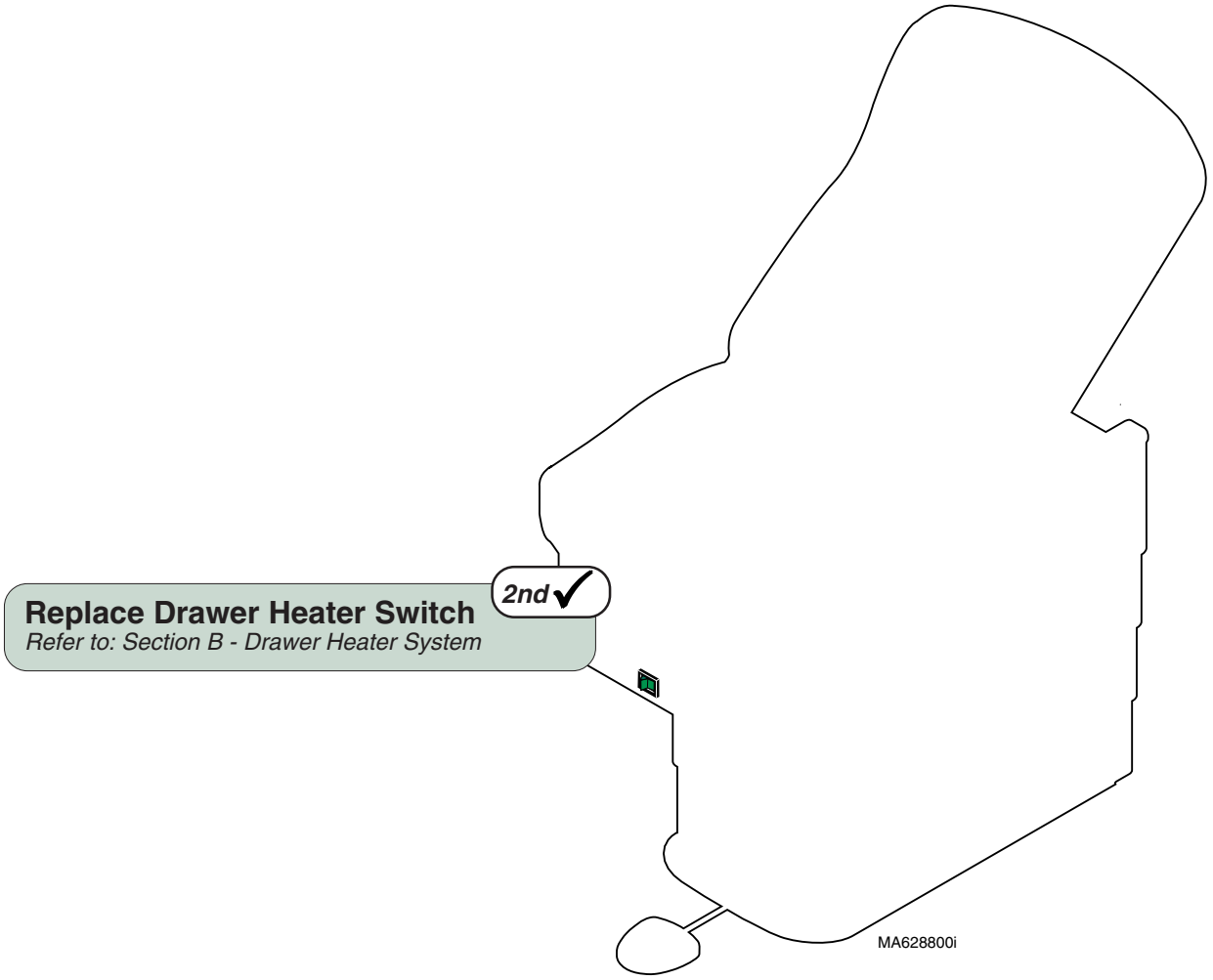
Troubleshooting

Go To Table Of Contents

Function	Status	Problem
Drawer Heater		OK
Heater Switch		Does not illuminate

Refer To: *Go To Page:*

Drawer Heater System B-25
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1



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Troubleshooting

Table Receptacle (optional)

This illustration shows only the components that affect the table receptacle.
A detailed description of current flow also appears below.

Troubleshooting
[Table Receptacle]

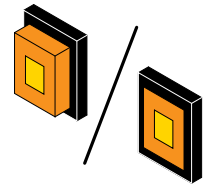
Problem — **Go To Page:**

No Power At Receptacle A-28

Table Receptacle
115 VAC is supplied directly to the table receptacle thru the circuit breaker(s)*.
[Voltage bypasses the Main PC Board].

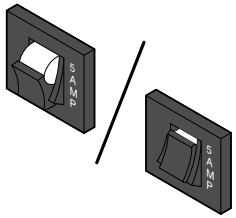
NOTE: *Models w/drawer heater only*
There is a connection point for the receptacle wiring harness at the distribution board.
Current does not flow thru the distribution board fuses.

Push-Button style
(Tripped = no power)



(Reset = power)

Toggle style
(Tripped = no power)

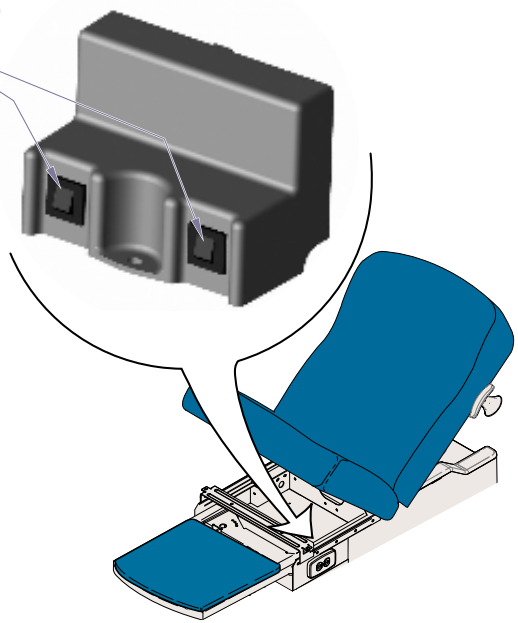


(Reset = power)

Circuit Breakers (2)

222/223
(-015 & -016)

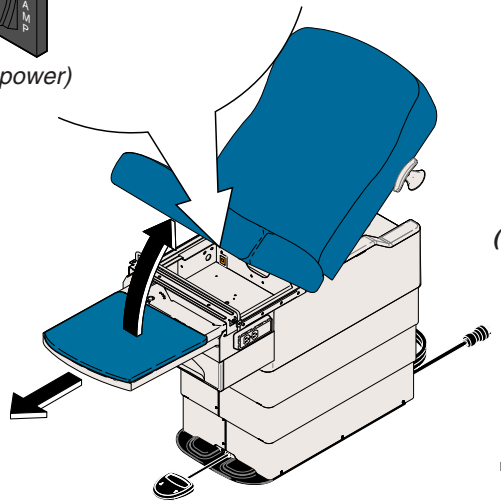
622/623
(-007 & -008)



Circuit Breaker (1)*
*(*Canadian models do not have a circuit breaker)*

222/223
(-002 /-004 /-006 /-008)
(-011 thru -014)

622/623
(-001 /-002 /-005 /-006)



MA603405i

Models: *Serial Numbers:*	***222*** ***(-002 /-004 /-006 /-008)*** ***(-011 thru -016)*** *All*	***223*** ***(-002 /-004 /-006 /-008)*** ***(-011 thru -016)*** *All*	***622*** ***(-001 /-002)*** ***(-005 thru -008)*** *All*	***623*** ***(-001 /-002)*** ***(-005 thru -008)*** *All*

Table Receptacle

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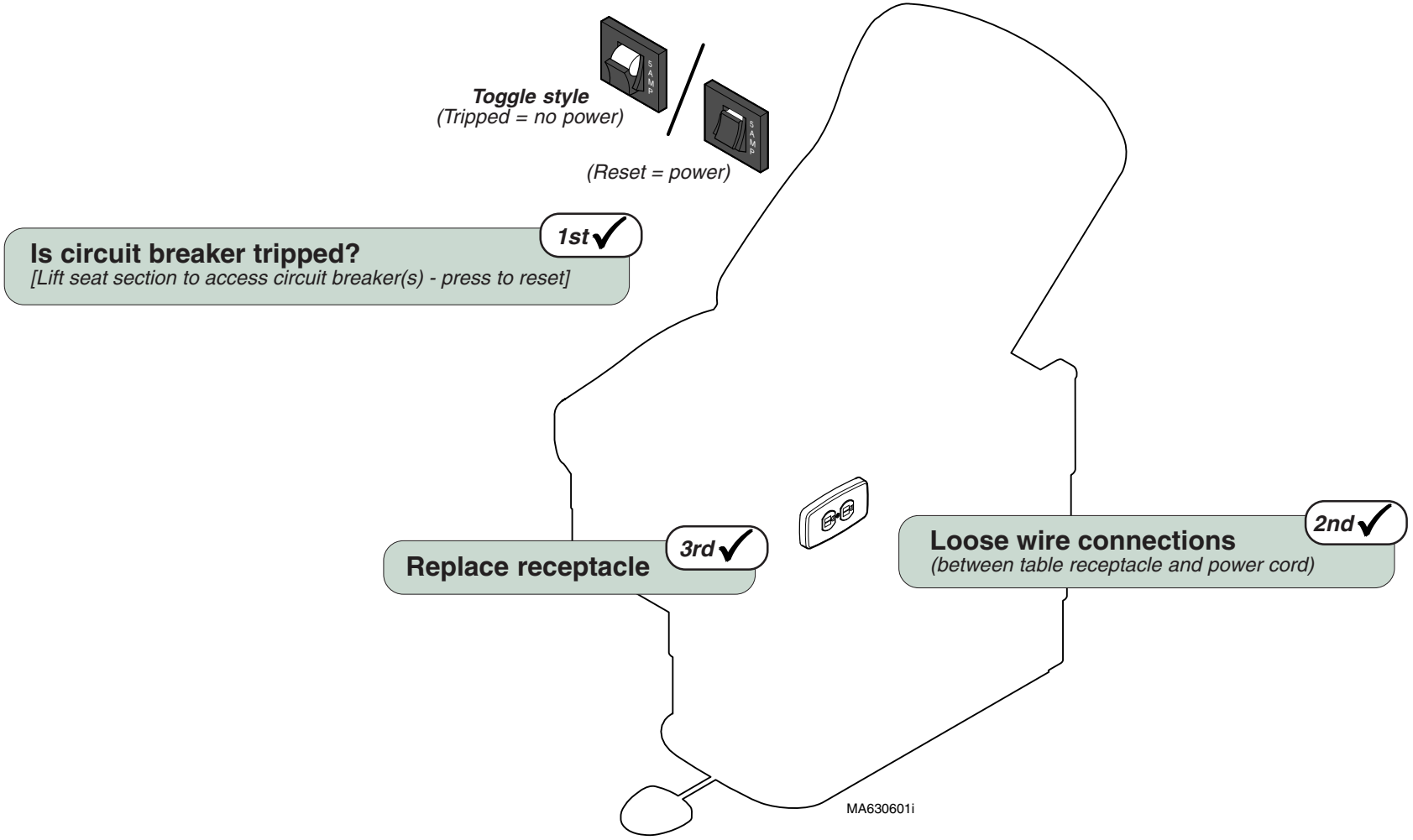
Troubleshooting

Go To Table Of Contents

Function	Status	Problem
Table Receptacle		No power.
All other functions		OK

Refer To: Go To Page:
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1



Models:	222	223	622	623
Serial Numbers:	(-002 /-004 /-006 /-008) (-011 thru -016) All	(-002 /-004 /-006 /-008) (-011 thru -016) All	(-001 /-002) (-005 thru -008) All	(-001 /-002) (-005 thru -008) All

Table Receptacle

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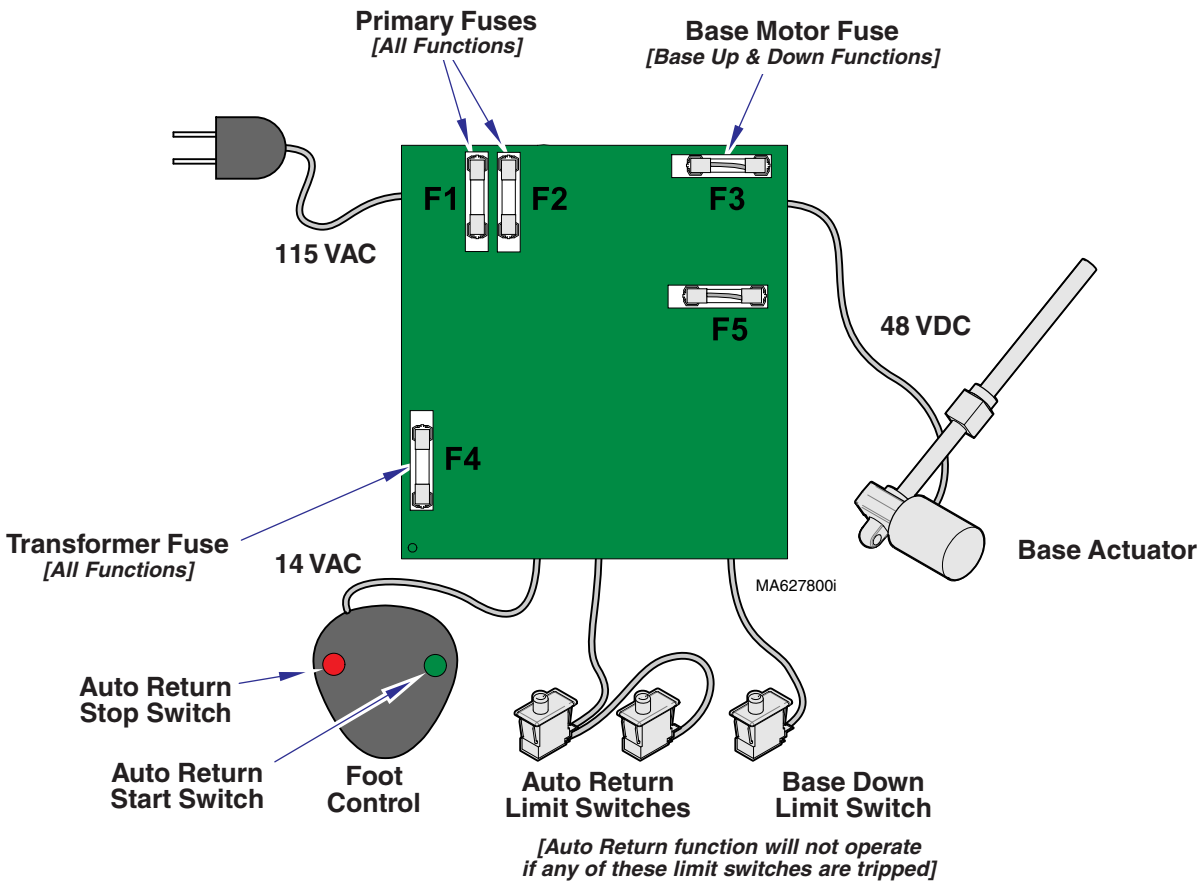
Auto Return Function

This illustration shows only the components that affect the Auto Return function.

Refer to the following page for a detailed description of current flow during this function.



Troubleshooting
[Auto Return Function]

Go To Page:

Problem

Auto Return Function Does Not Work / Base Down Function:

Malfunctioning A-2

Works Properly A-31

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Troubleshooting

Auto Return Function

Power To Foot Control

115 VAC is supplied thru the two primary fuses *(F1 & F2)* to the transformer on the PC board. *[F4 fuse protects the transformer]*.

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Auto Return Operation

> **NOTE**
> If either of the Auto Return limit switches or the Base Down limit switch are tripped (open), the Auto Return function will not operate.

When the Auto Return Switch is depressed (closed), current *(14 VAC)* flows thru the switch, to the PC Board.

> **NOTE**
> The Base Up / Down relay, located on the PC Board, has four contacts (DPDT):
> *(2) Normally Open: Base Up function*
> ***(2) Normally Closed: Base Down function***

When this voltage is applied, current *(48 VDC)* flows to the actuator motor thru the (2) Normally Closed contacts of the Base Up / Down relay.
[The relay does not energize].

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs lowering the table.

Actuator Motor runs until:

1. Stop button is depressed.
2. Auto Return limit switch(es) is tripped.
3. 18 second software time limit is reached.
4. Base Down limit switch is tripped.
5. Fuse(s) opens (blows).
   [Primary, Base Motor, Transformer fuse]

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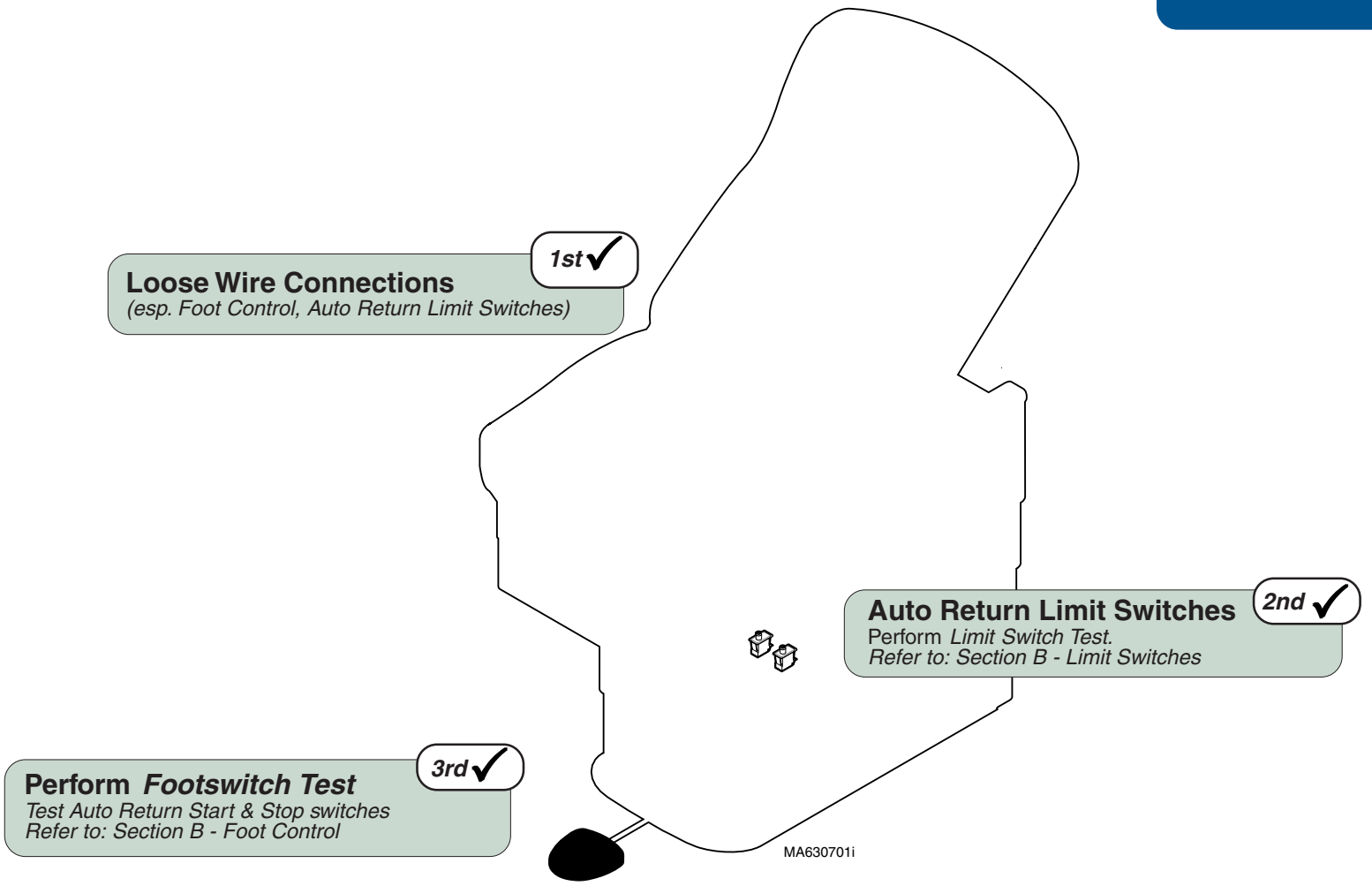
Troubleshooting

Function	Status	Problem
Auto Return		No movement
Base Down		OK

Refer To: — **Go To Page:**
Limit Switches B-4
Foot Control B-6
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1


1st ✓
Loose Wire Connections
(esp. Foot Control, Auto Return Limit Switches)
2nd ✓
Auto Return Limit Switches
Perform Limit Switch Test.
Refer to: Section B - Limit Switches
3rd ✓
Perform Footswitch Test
Test Auto Return Start & Stop switches
Refer to: Section B - Foot Control
MA630701i

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Troubleshooting

Upholstery Heater System (optional)

This illustration shows only the components that affect the Upholstery Heater System.
A detailed description of current flow during this function also appears below.

Troubleshooting
[Upholstery Heater System]

Problem — ***Go To Page:***

Heater Does Not Warm Up:
- *Switch Does Not Illuminate* A-33
- *Switch Illuminates* A-34

Heater Works Properly:
- *Switch Does Not Illuminate* A-35

Upholstery Heater Operation

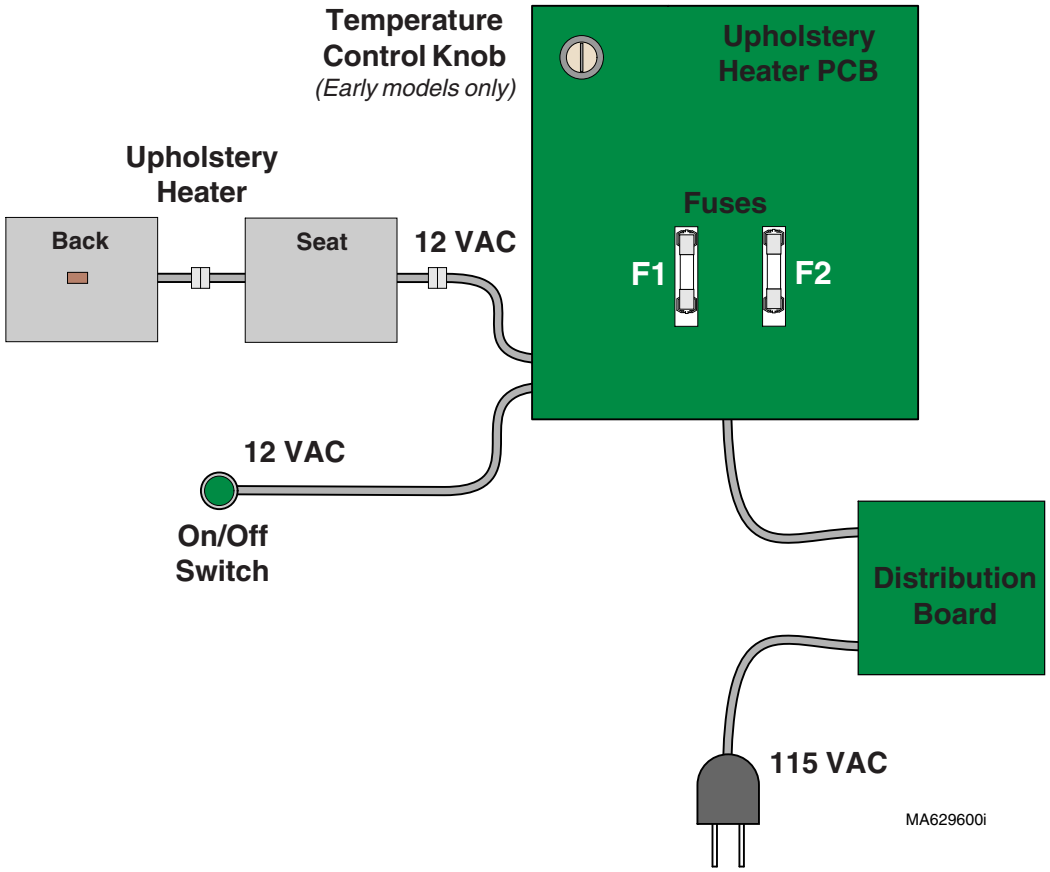
115 VAC is supplied thru the IEC inlet to the Distribution PC board and then to the Upholstery Heater PC board at J2 & J3. Fuses F1 and F2 protect the circuit. Circuitry on PC board converts 115 VAC to 12 VAC.

Depressing and releasing the momentary On/ Off Switch supplies approximately 12 VAC to the Upholstery Heater. A timer on the PC board *(initiated when the On/ Off Switch is depressed)* keeps the heater activated for an 8 hour period unless the Switch is depressed Off.

(Temperature knob not present on later models) The upholstery heater temperature can be regulated by the operator. Turning the temperature knob will increase or decrease the voltage to the heater. The temperature can be varied to a maximum of 105° F (41° C).

A thermostat, located in Back Heating Pad, opens at 131° F (55°C) +/- 10% removing power from both Back and Seat heating elements.

Upholstery Heater runs until:
1. Stop button is depressed.
2. 8 hour time limit is reached.
3. Fuse(s) on Upholstery Heater PCB opens (blows).



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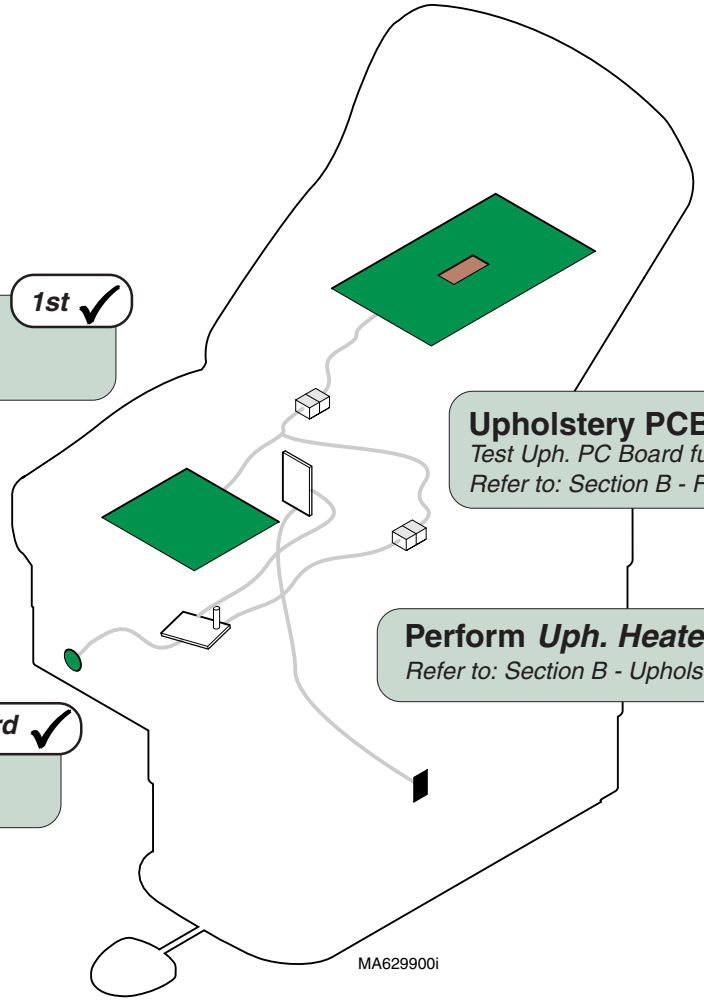
Troubleshooting

Function	Status	Problem
Upholstery Heater		Does not heat up.
Heater Switch		Does not illuminate

Refer To: — **Go To Page:**

Fuses B-2
Uph. Heater PC Board Test B-31
Uph. Heater Switch Test B-35
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1



Loose Wire Connections — 1st ✓
Distribution Board to Upholstery PCB, Upholstery PCB to Heater Switch.

Upholstery PCB Fuse(s) — 2nd ✓
Test Uph. PC Board fuses.
Refer to: Section B - Fuses

Perform *Uph. Heater PC Board Test* — 4th ✓
Refer to: Section B - Upholstery Heater System

Perform *Uph. Heater Switch Test* — 3rd ✓
Refer to: Section B - Upholstery Heater System

Models:	622	623
Serial Numbers:	(-002 /-004 /-006-008) All	(-002 /-004 /-008 / -010) All

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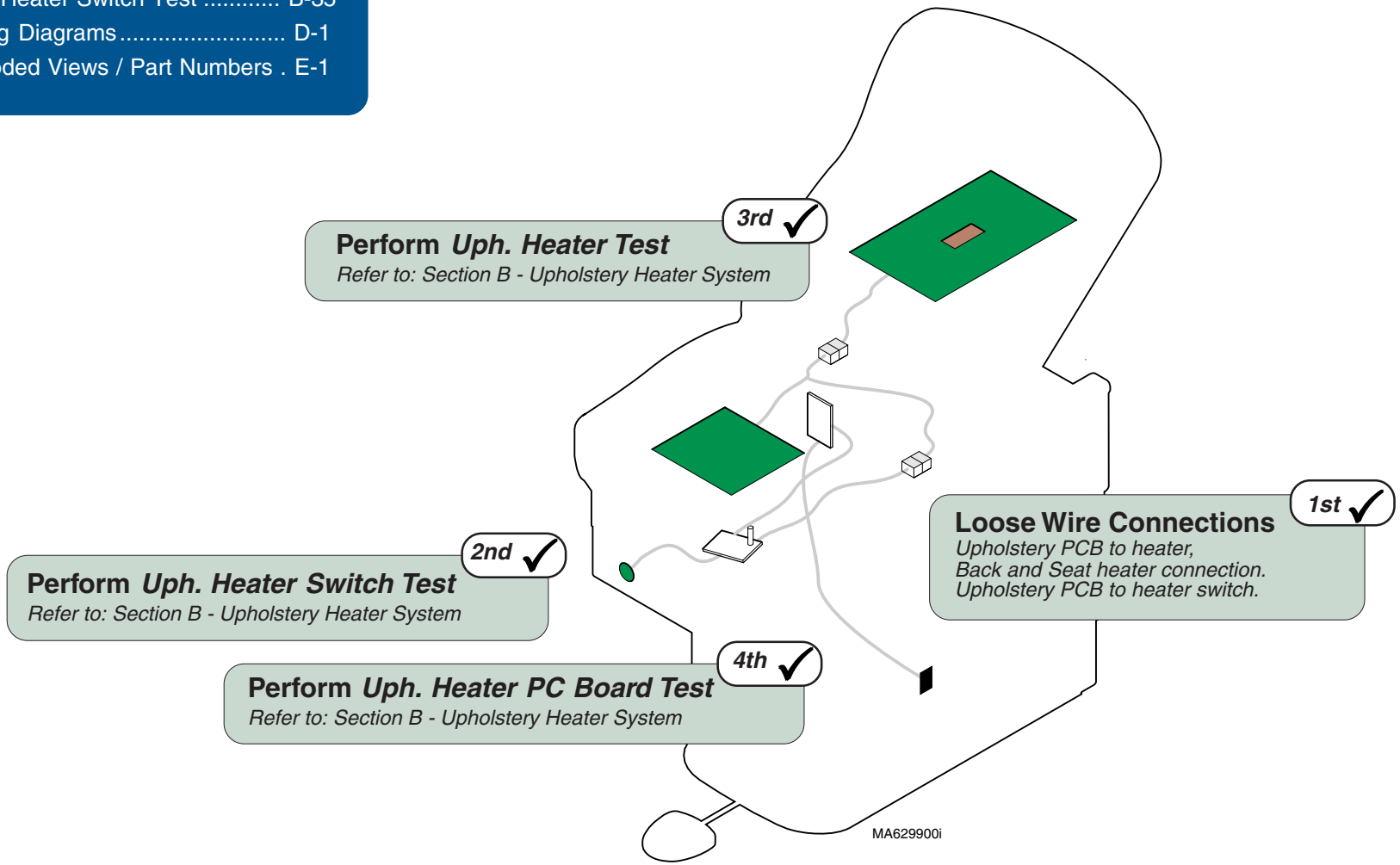
Troubleshooting

Function	Status	Problem
Upholstery Heater		Does not heat up.
Heater Switch		Illuminates.

Refer To: **Go To Page:**

Fuses B-2
Uph. Heater PC Board Test B-31
Uph. Heater Test B-34
Uph. Heater Switch Test B-35
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1


3rd
Perform Uph. Heater Test
Refer to: Section B - Upholstery Heater System
2nd
Perform Uph. Heater Switch Test
Refer to: Section B - Upholstery Heater System
4th
Perform Uph. Heater PC Board Test
Refer to: Section B - Upholstery Heater System
1st
Loose Wire Connections
Upholstery PCB to heater,
Back and Seat heater connection.
Upholstery PCB to heater switch.
MA629900i

Upholstery Heater

Models:	622	623
Serial Numbers:	(-002 /-004 /-006-008) All	(-002 /-004 /-008 / -010) All

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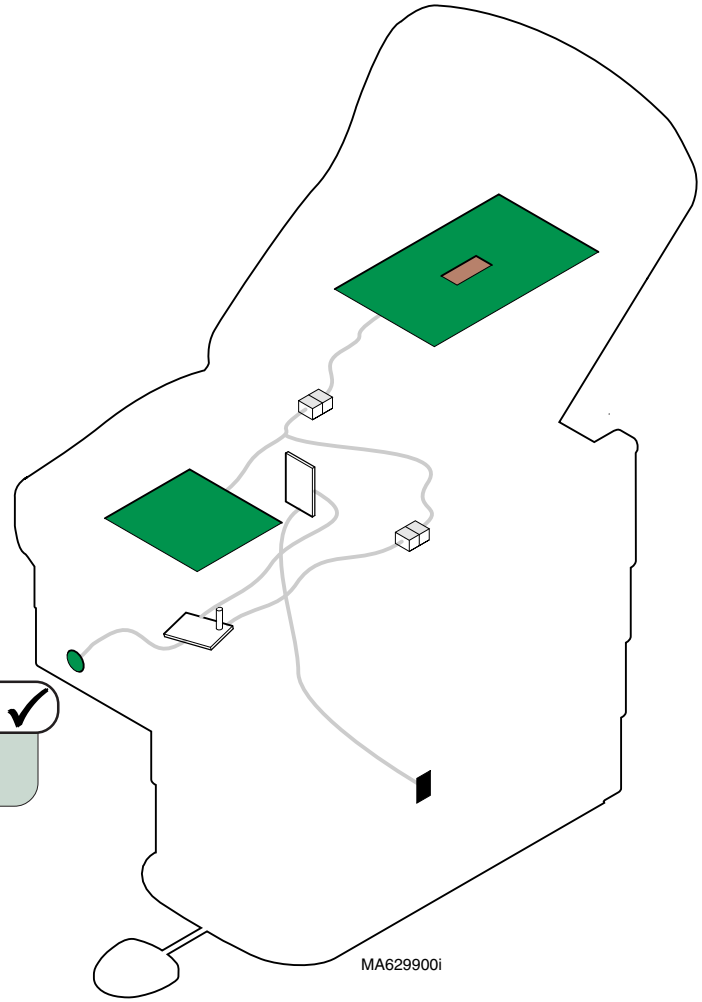
Troubleshooting

Function	Status	Problem
Upholstery Heater		OK
Heater Switch		Does not illuminate

Refer To: *Go To Page:*
Upholstery Heater Switch
Replacement B-35
Wiring Diagrams D-1
Exploded Views / Part Numbers . E-1



1st ✓

Replace Uph. Heater Switch
Refer to: Section B - Upholstery Heater System

Models:	622	623
Serial Numbers:	(-002 /-004 /-006-008) All	(-002 /-004 /-008 / -010) All

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Troubleshooting

Go To Table Of Contents

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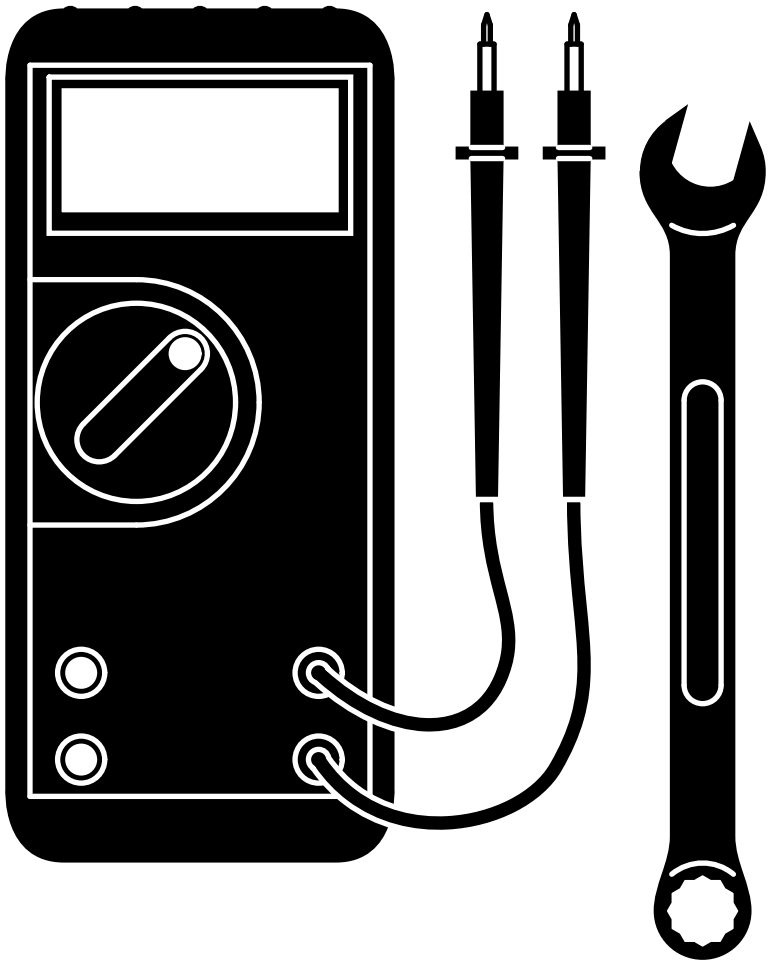
Section B

Component Testing & Repair

Components — Go To Page:

Fuses B-2
Limit Switches B-4
Foot / Hand Control B-6
Base Actuator B-11
Back Actuator *(power)* B-11
Back Release Mechanism *(manual)* B-17
Main PC Board B-21
Drawer Heater System B-25
Upholstery Heater System B-31

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. B-2)

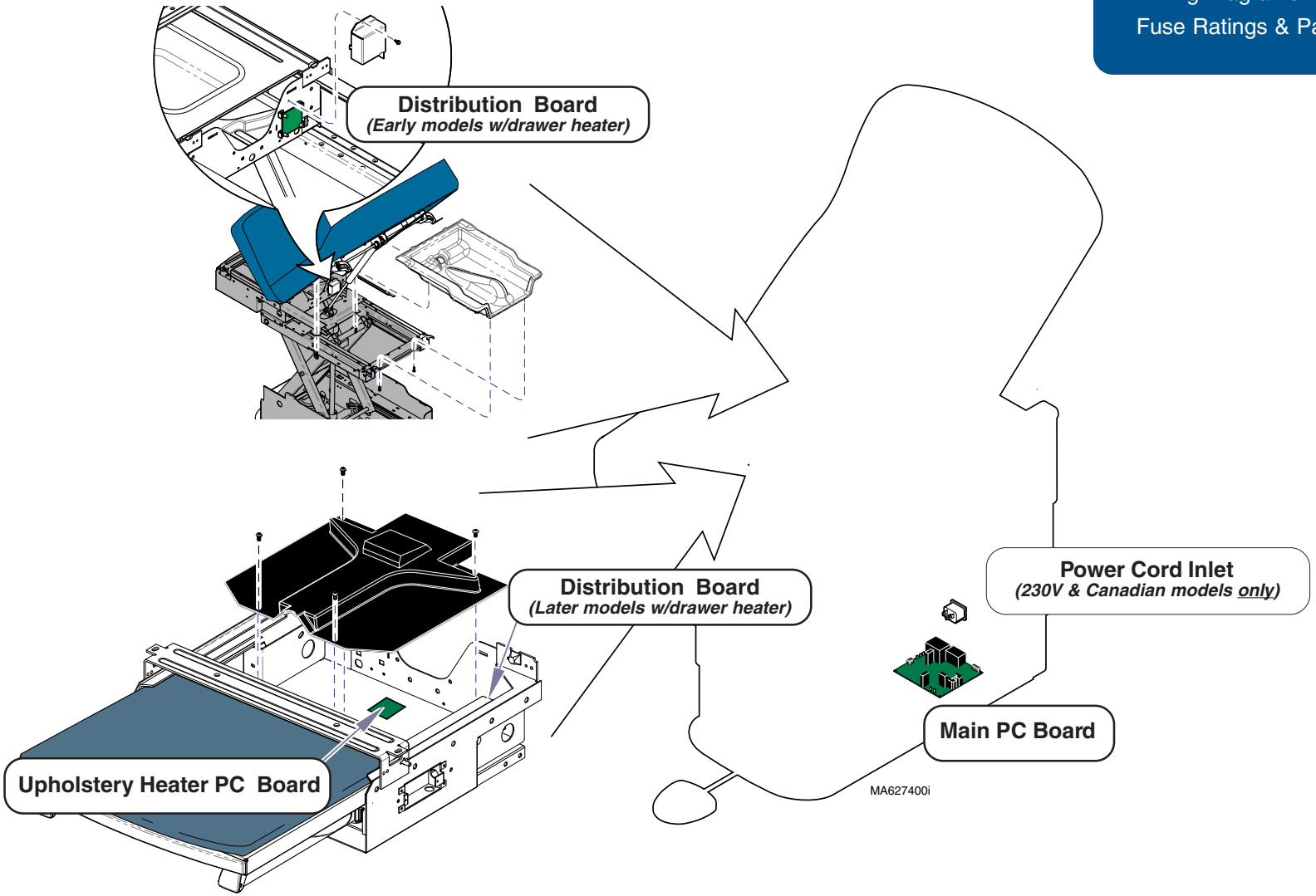


Component Testing & Repair

Fuses

Location

Fuses — Go To Page:
Location B-2
Fuse Test B-3
Access Procedures C-1
Wiring Diagrams D-1
Fuse Ratings & Part Numbers E-25



Fuses

Models: ***All***
Serial Numbers: *All*

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Fuses - *continued*

Fuse Test

Fuse Test
Step 1: Set meter to 200 **Ω.**

Fuse Test
Step 2: Place meter probes on each end of fuse.

Meter Readng	*Status*	*Required Action*
OL		Replace fuse.
Any resistance reading		Fuse is good.

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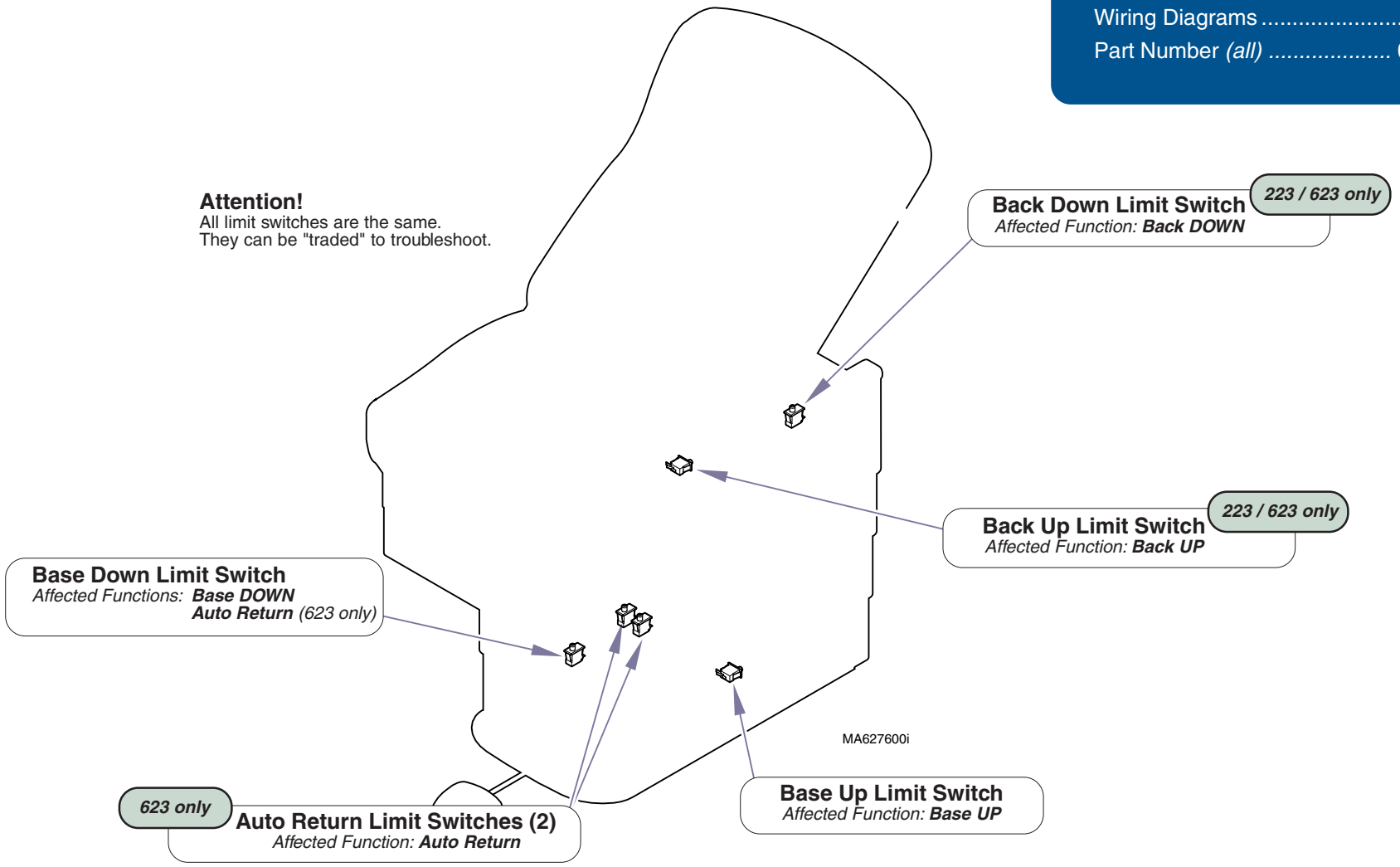
Component Testing & Repair

Limit Switches

Location

Limit Switches — Go To Page:
Location B-4
Limit Switch Test B-5
Access Procedures C-1
Wiring Diagrams D-1
Part Number *(all)* **015-1055-00**



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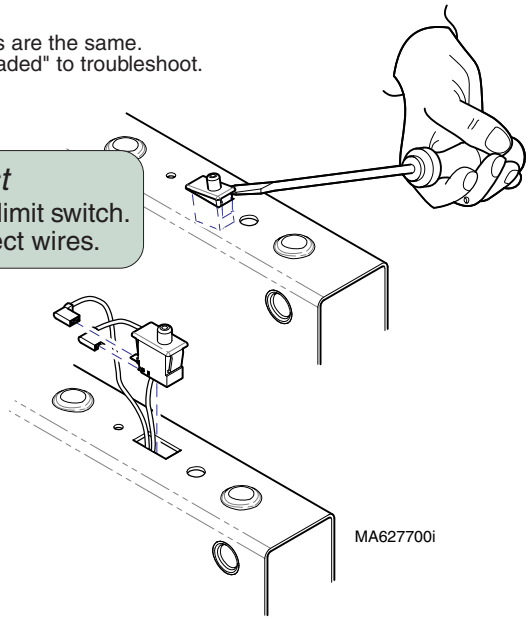
Component Testing & Repair

Limit Switches - continued

Limit Switch Test

Attention!
All limit switches are the same.
They can be "traded" to troubleshoot.

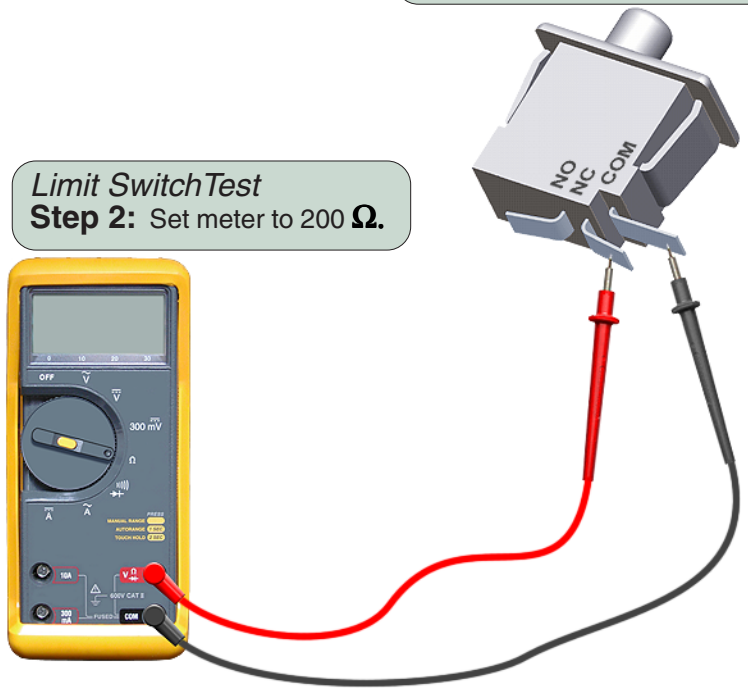
Limit Switch Test
Step 1: Remove limit switch. Disconnect wires.



Limit Switch Test
Step 3: Place meter probes on ***COM*** *and* ***NC*** terminals.

Note: *Check switch 'tripped' and 'untripped'.*

Limit SwitchTest
Step 2: Set meter to 200 **Ω.**



With switch 'tripped'...

Meter Readng	*Status*	*Required Action*
OL		Switch is good. Perform next check.
less than or = to **5 ohms**		Replace switch

With switch 'untripped'...

Meter Readng	*Status*	*Required Action*
OL		Replace switch
Any resistance reading		Switch is good. Perform next check.

Models: ***All***
Serial Numbers: *All*

Limit Switches

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Component Testing & Repair

Foot / Hand Control

Foot Switch Test - 222 / 622

Foot / Hand Control — Go To Page:

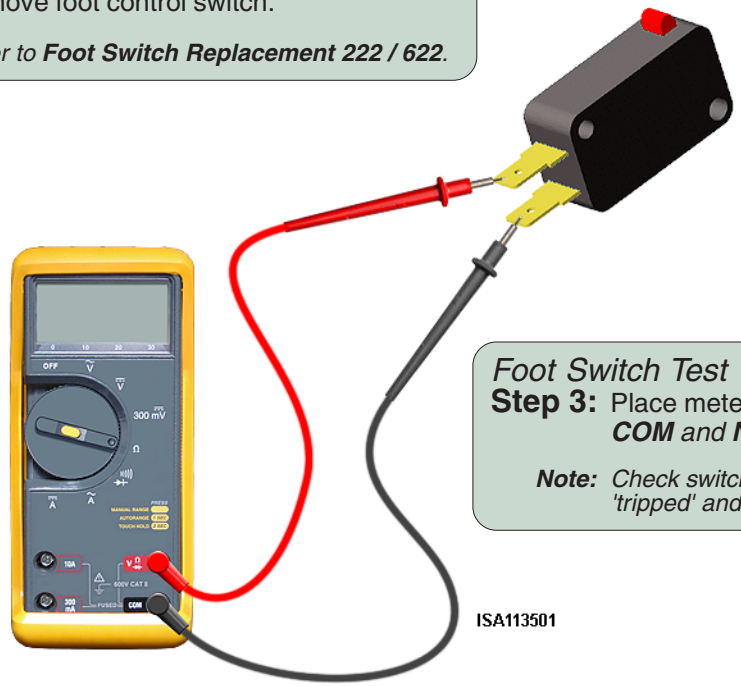
Foot Switch Test - *222 / 622* B-6
Foot / Hand Control Test - *223 / 623* B-7
Foot Switch Replacement:
222 / 622 ..... B-8
223 / 623 (old style foot control) B-9
Switch Membrane Replacement:
223 / 623 (new style foot control) B-10
623 Hand Control B-10
Wiring Diagrams D-1
Exploded View / Part Numbers:
Foot Contol - 222 / 622 ..... E-27
Foot Control - 223 ..... E-28*
Foot Control - 623 ..... E-29*
Hand Control - 623 ..... E-30

** multiple pages due to model / serial # break*

Foot SwitchTest
Step 1: Remove foot control switch.

Note: *Refer to* ***Foot Switch Replacement 222 / 622****.*

Foot Switch Test
Step 2: Set meter to **Ω.**



Foot Switch Test
Step 3: Place meter probes on ***COM*** *and* ***NO*** terminals.

Note: *Check switch 'tripped' and 'untripped'.*

With switch 'tripped'...

Meter Readng	*Status*	*Required Action*
less than or = to **5 ohms**		Switch is good. Perform next check.
OL		Replace switch

With switch 'untripped'...

Meter Readng	*Status*	*Required Action*
Any resistance reading		Replace switch.
OL		Switch is good. Perform next check.

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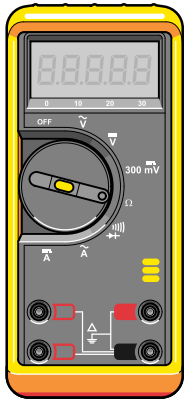
Component Testing & Repair

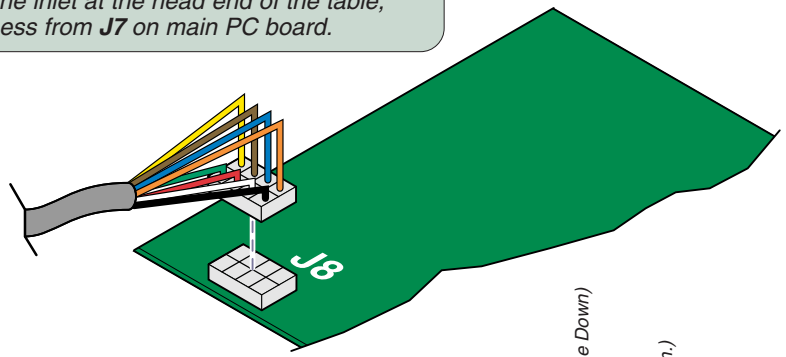
Foot / Hand Control - *continued*

Foot / Hand Control Test - 223 / 623

Foot / Hand Control Test
Step 1: Disconect wire harness from J8* on main PC board.

**** Note:*** *Model 623 only: If the foot or hand control to be tested is plugged into the inlet at the head end of the table, disconnect harness from **J7** on main PC board.*



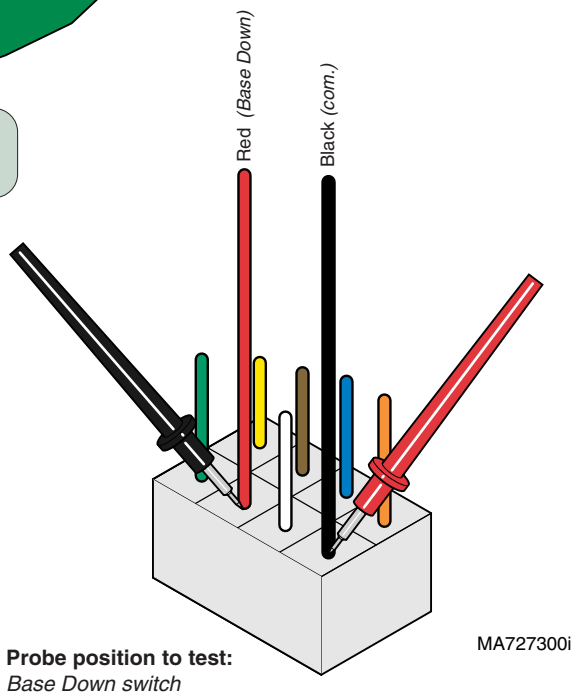


Foot / Hand Control Test
Step 2: Set meter to **Ω.**

Foot / Hand Control Test
Step 3: Place one meter probe on black wire *(common)* of foot / hand control harness.

Place other meter probe on the wire that corresponds to the switch to be tested:

Switch	***Wire Color***
Base Up	*white*
Base Down	*red*
Back Up	*green*
Back Down	*orange*
Auto Return	*blue*
Stop	*brown*



Probe position to test:
Base Down switch

MA727300i

With switch 'untripped'...

Meter Readng	***Status***	***Required Action***
Any resistance reading		Replace switch / switch membrane.
OL		Switch is good. Perform next check.

With switch 'tripped'...

Meter Readng	***Status***	***Required Action***
less than or = to **5 ohms**		Switch is good. Perform next check.
OL		Replace switch / switch membrane.

Models:	***223 (all)***	***623 (all)***
Serial Numbers:	*All*	*All*

Foot / Hand Control

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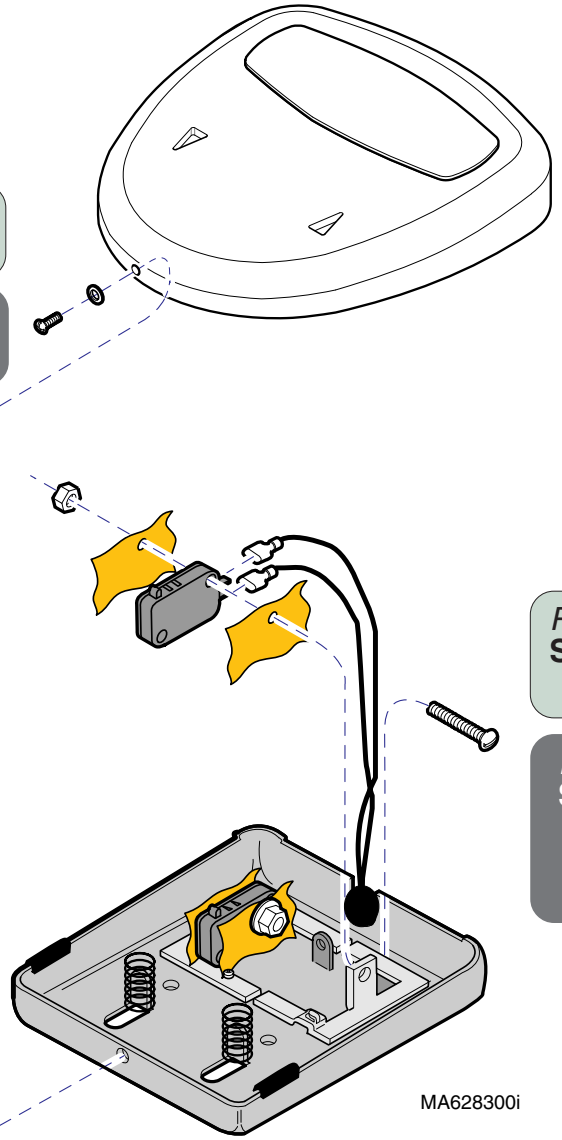
Component Testing & Repair

Foot / Hand Control - continued

Foot Switch Replacement - 222 / 622



Removal
Step 1: Remove cover.

Installation
Step 2: Install cover.

Removal
Step 2: Remove switch.
Disconnect wires.

Installation
Step 1: Install switch.
Connect wires.

Note: *Be sure insulating material is in place.*

Foot / Hand Control

Models: *Serial Numbers:*	***222 (all)*** *All*	***622 (all)*** *All*

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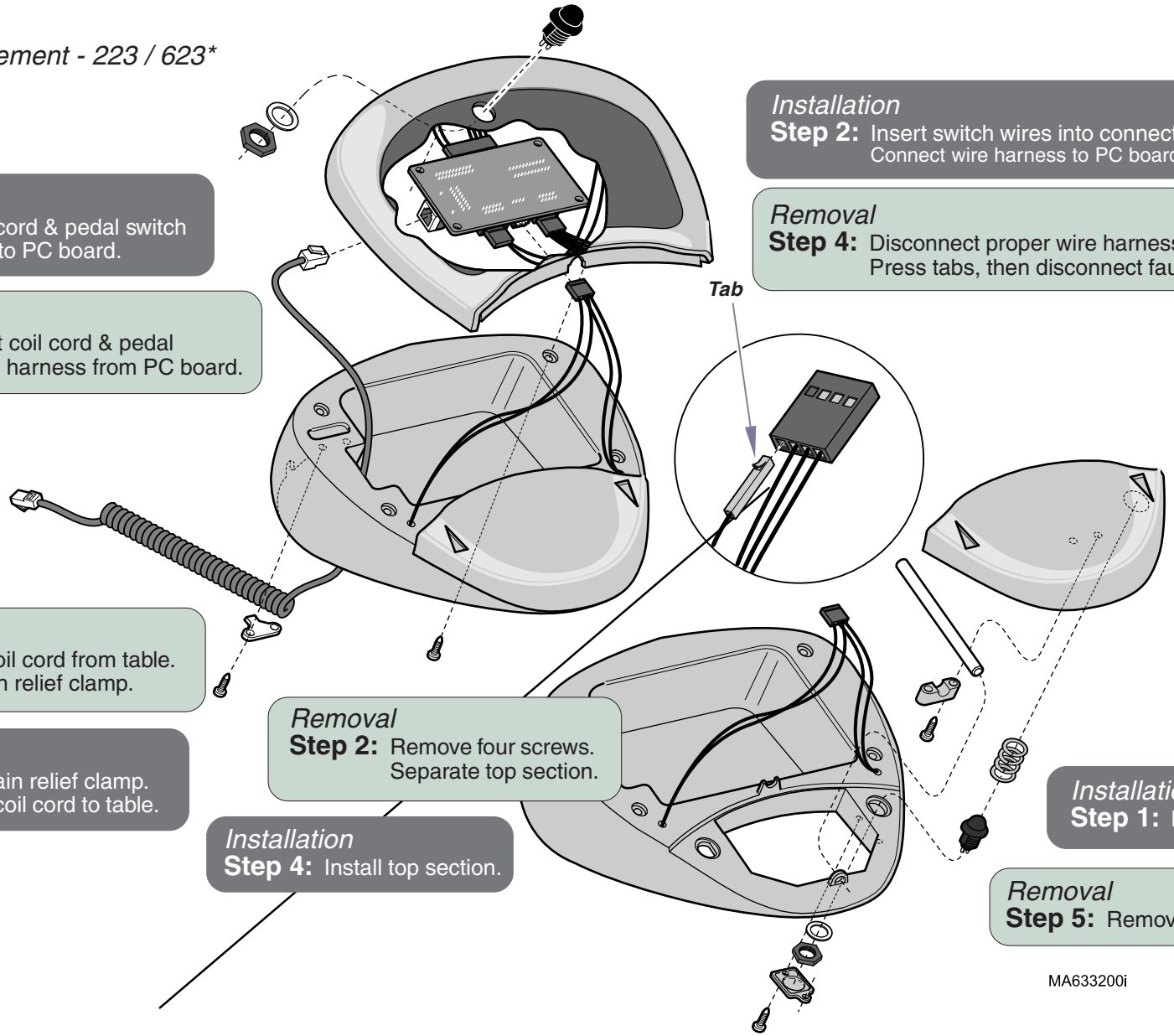
Component Testing & Repair

Foot / Hand Control - continued

*Foot Switch Replacement - 223 / 623**

** Old-style Foot Control*



Installation
Step 2: Insert switch wires into connector. Connect wire harness to PC board.

Removal
Step 4: Disconnect proper wire harness from PC board. Press tabs, then disconnect faulty switch wires.

Installation
Step 3: Connect coil cord & pedal switch wire harness to PC board.

Removal
Step 3: Disconnect coil cord & pedal switch wire harness from PC board.

Removal
Step 1: Disconnect coil cord from table. Remove strain relief clamp.

Installation
Step 5: Install strain relief clamp. Connect coil cord to table.

Removal
Step 2: Remove four screws. Separate top section.

Installation
Step 4: Install top section.

Installation
Step 1: Install switch.

Removal
Step 5: Remove faulty switch.

MA633200i

Models:	***223 (-001 thru -014)***		***623 (-001 thru -006)***	
Serial Numbers:	*SC1000 thru present*	*SD1000 thru present*	*SL1000 thru present*	*SM1000 thru present*
	SE1000 thru present	*SF1000 thru present*	*V2200 thru V3302*	
	V2200 thru V3302			

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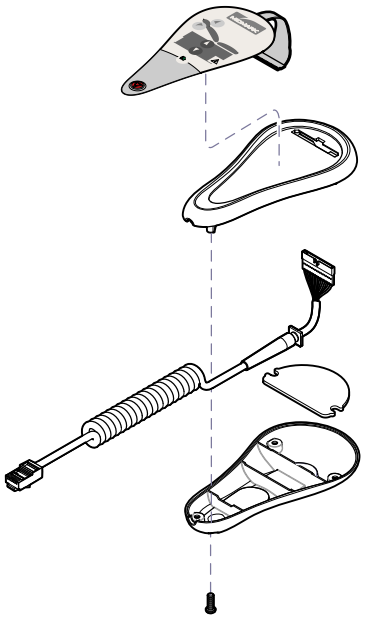
Component Testing & Repair

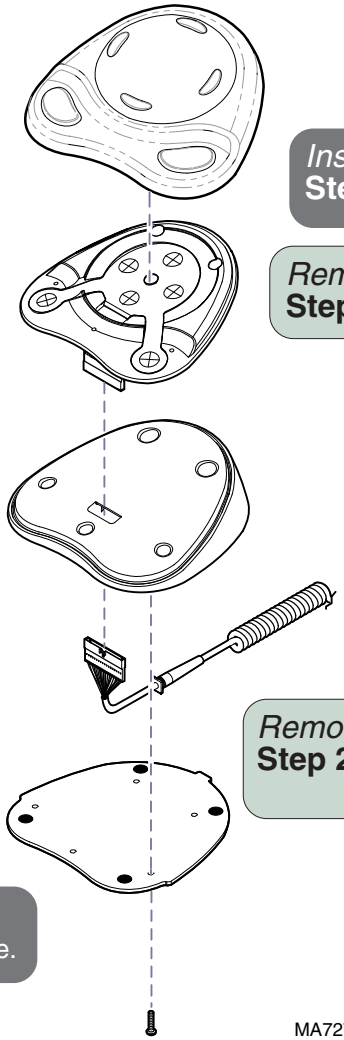
Foot / Hand Control - continued

*Switch Membrane Replacement - 223 / 623**

** New-style Foot Control*

Hand Control - 623 only





Installation
Step 1: Install touch pad onto switch panel.

Removal
Step 3: Peel touch pad off of switch panel.

Installation
Step 2: Insert control cord thru hole in base.
Connect to membrane connector.

Note: *Slide strain relief block (on cord) into slot on base.*

Removal
Step 2: Disconnect control cord from membrane connector.

Removal
Step 1: Remove base plate.

Installation
Step 3: Install base plate.

MA727600i

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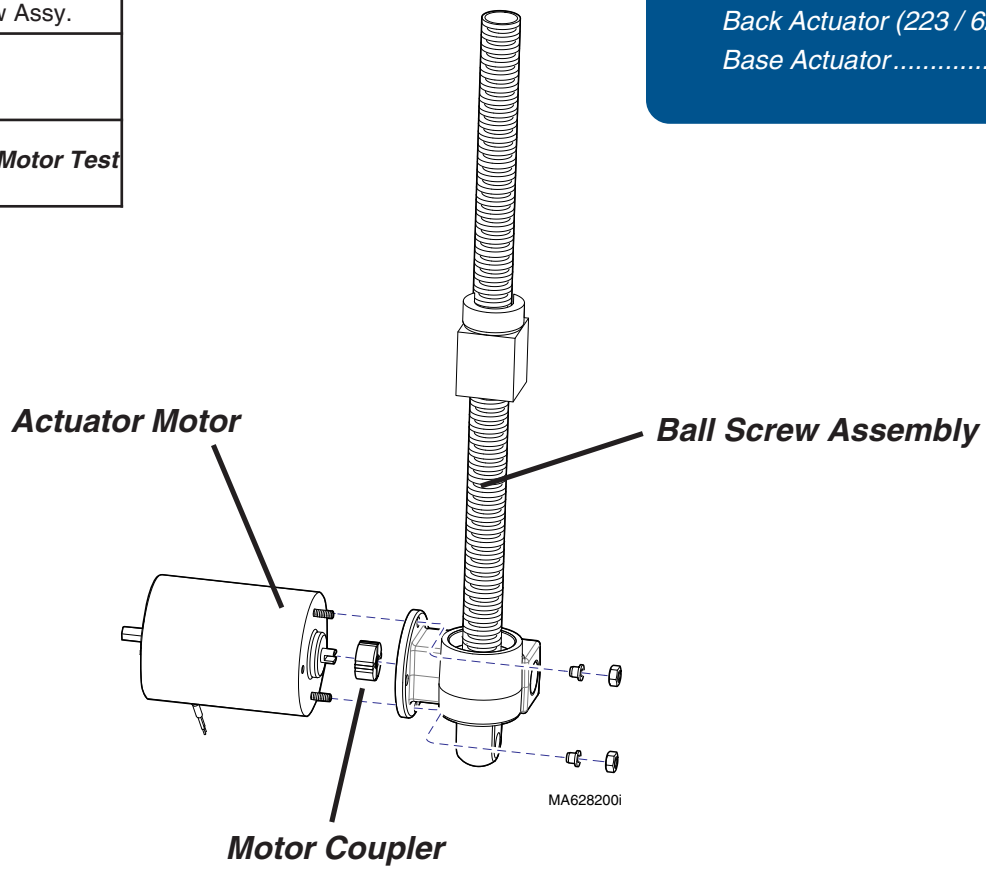
Base / Back Actuator

This illustration shows the three seviceable components of the actuator.
Use the table below to isolate the malfunctioning part.

Problem	*Required Action*
Motor runs, but makes grinding noise.	Clean Ball Screw threads. ***-or*** Replace Ball Screw Assy.
Motor runs, but table does not move.	Inspect / replace Motor Coupler.
Motor does not run.	Perform ***Actuator Motor Test***

Base / Back Actuator — *Go To Page:*

Actuator Motor Test B-12
Replacement:
Base Actuator B-13
Back Actuator (223 / 623) B-15
Wiring Diagrams D-1
Exploded View / Part Numbers:
Back Actuator (223 / 623) E-12
Base Actuator E-21



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Component Testing & Repair

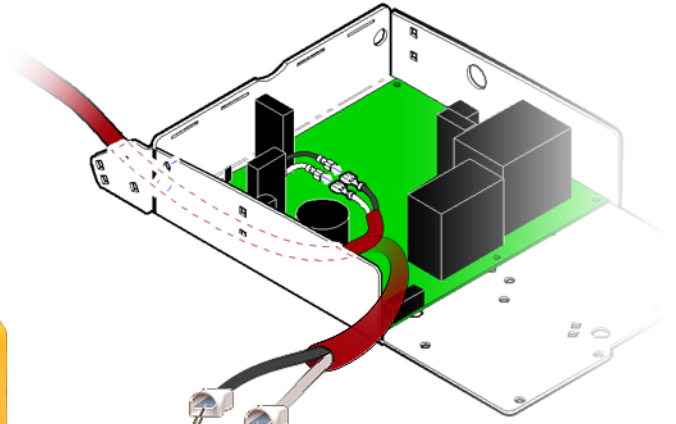
Base / Back Actuator - continued

Actuator Motor Test

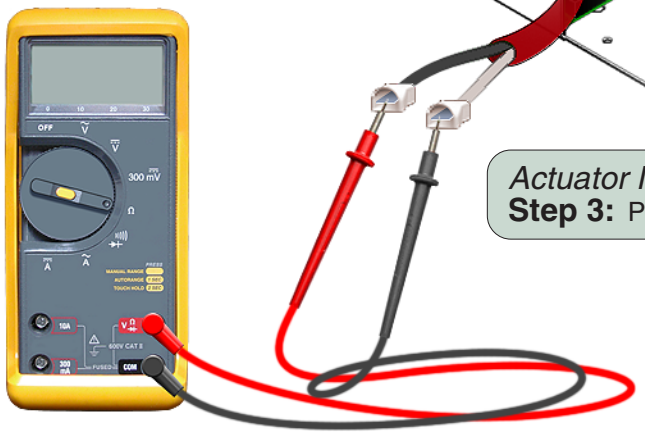
> ***Caution***
> Unplug power cord before removing PC Board cover.

Actuator Motor Test
Step 1: Disconnect actuator wires from PC Board.
[Base Actuator: J2 & J3]
[Back Actuator: J4 & J5 *(223 / 623 only)*]

Note: *Refer to next page to access PC Board.*



Actuator Motor Test
Step 2: Set meter to 200 **Ω.**



Actuator Motor Test
Step 3: Place meter probes on actuator wires.

ISA113700

Meter Readng	*Status*	*Required Action*
2- 3 **Ω**		Motor is good. Perform next check.
0 **Ω**		Replace motor.

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Component Testing & Repair

Base Actuator

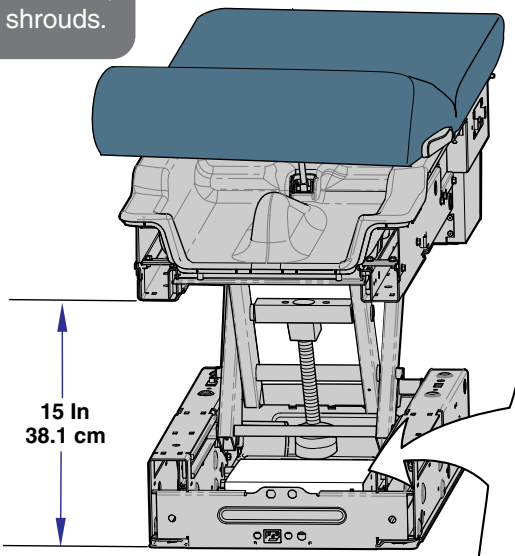
Replacement

Access Procedures — **Go To Page:**

Table Shrouds
Removal / Installation C-2
Manually Raising / Lowering Table C-5

Removal (see Access Procedures)
Step 1: Remove table shrouds.

Installation (see Access Procedures)
Step 7: Replace table shrouds.



Caution
Unplug power cord before removing PC Board cover.

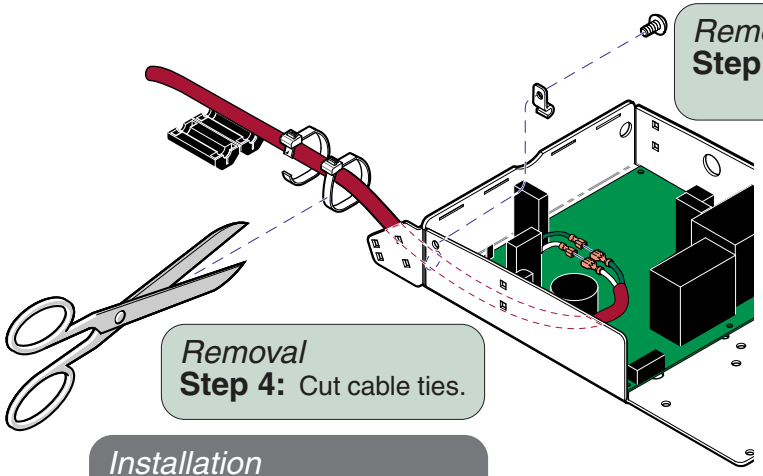
Removal
Step 3: Remove PC Board cover.

Installation
Step 6: Replace PC Board cover.

Installation
Step 4: Connect base actuator motor wires.

Note: Clamp must be installed over stripped portion of actuator wire.

Removal
Step 5: Disconnect base actuator motor wires.



Removal
Step 4: Cut cable ties.

Installation
Step 5: Replace cable ties.

Removal
Step 2: Position table so that bottom of upperwrap is approx. 15 in. from floor.

Note: If necessary, manually raise / lower table. *(see Access Procedures)*

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Component Testing & Repair

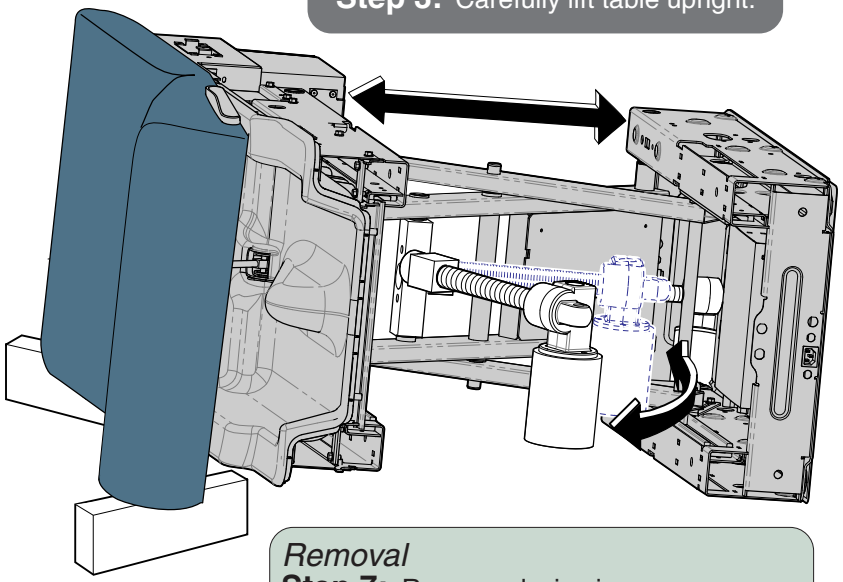
Base Actuator - continued

Replacement - continued

> ***Caution***
> Use an assistant when laying / lifting table.
> Remove all accessories (chair arms, storage pod, etc.)

Removal
Step 6: Lay table down on LH side.

Installation
Step 3: Carefully lift table upright.

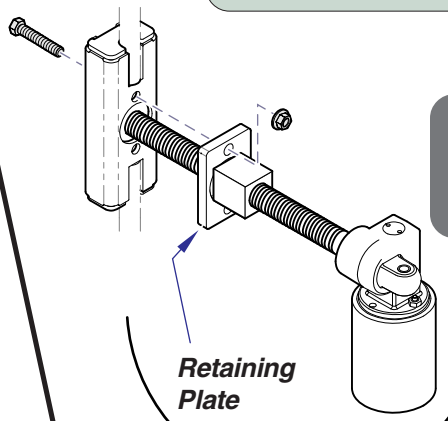


Removal
Step 7: Remove clevis pin.
Pull base out to its full extension.
Pivot actuator toward head end.

Installation
Step 2: Pivot actuator toward foot end.
Push base together.
Install clevis pin & clip ring.

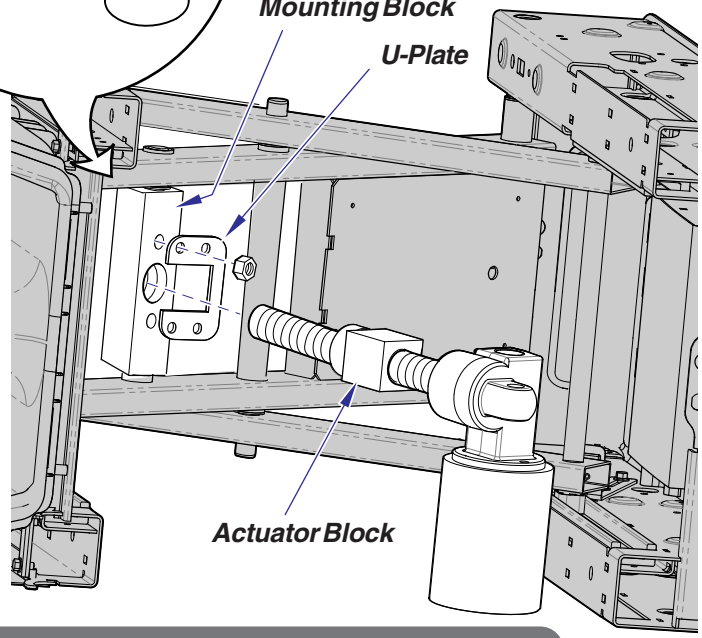
Removal
Step 8: Remove two nuts / hex bolts.
Newer models: Remove actuator. Unscrew retaining plate.
Older models: Remove U-plate.
Unscrew actuator block from mounting block.

Newer Models



Installation (Newer Models)
Step 1: Thread retaining plate onto actuator block.
Insert actuator thru mounting block.
Secure retaining plate to mounting block.

Older Models



MA628100i

Installation (Older Models)
Step 1: Thread actuator block 1/2 way down shaft.
Thread actuator block into mounting block.
Install U-plate.

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Component Testing & Repair

Back Actuator

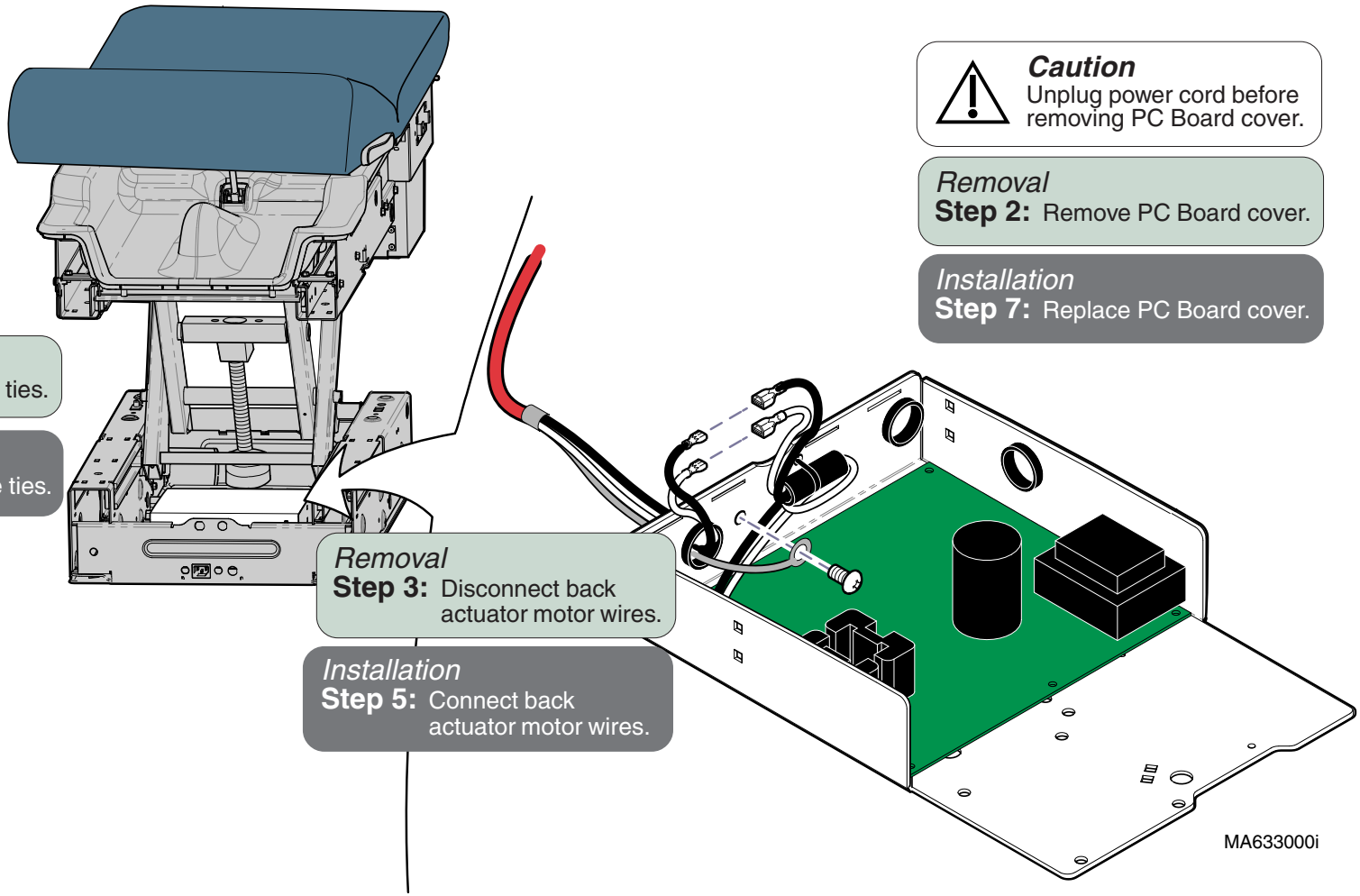
Replacement

Access Procedures — Go To Page:
Table Shrouds
Removal / Installation C-2

Removal *(see Access Procedures)*
Step 1: Remove outer shrouds.

Note: *The inner and middle shrouds will drop down. It is not necessary to remove them.*

Installation
Step 8: Replace shrouds.



Caution
Unplug power cord before removing PC Board cover.

Removal
Step 2: Remove PC Board cover.

Installation
Step 7: Replace PC Board cover.

Removal
Step 4: Cut all cable ties.

Installation
Step 6: Replace all cable ties.

Removal
Step 3: Disconnect back actuator motor wires.

Installation
Step 5: Connect back actuator motor wires.

MA633000i

Models: *Serial Numbers:*	***223 (all)*** *All*	***623 (all)*** *All*

Base / Back Actuator

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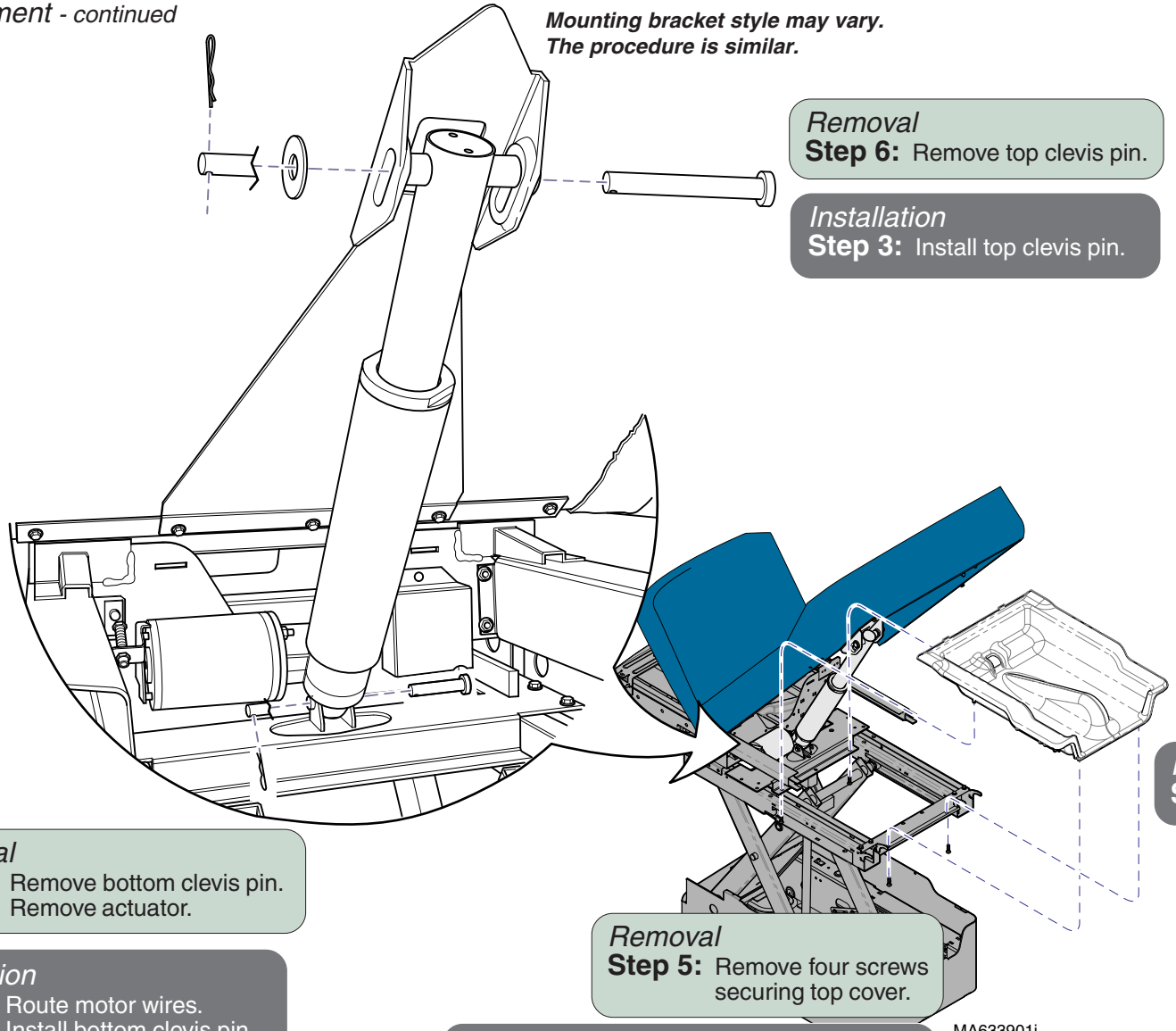
Component Testing & Repair

Back Actuator- continued

Replacement - continued

Mounting bracket style may vary. The procedure is similar.



Removal
Step 6: Remove top clevis pin.

Installation
Step 3: Install top clevis pin.

Removal
Step 7: Remove top cover.

Installation
Step 2: Slide top cover over actuator.

Removal
Step 8: Remove bottom clevis pin.
Remove actuator.

Installation
Step 1: Route motor wires.
Install bottom clevis pin.

Removal
Step 5: Remove four screws securing top cover.

Installation
Step 4: Secure top cover with four screws.

MA633901i

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Back Release Mechanism

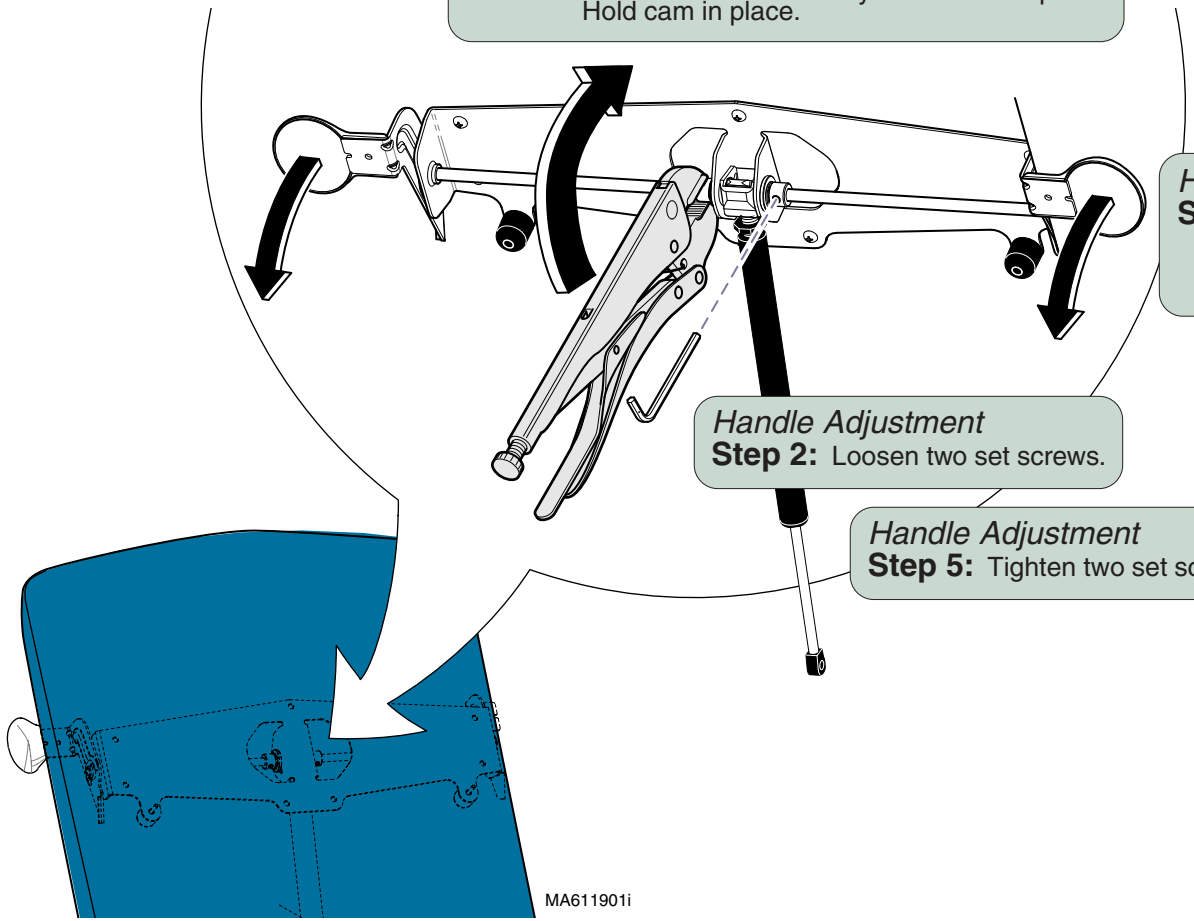
Back Release Handle Adjustment

Back Release Mechanism — Go To Page:
Back Release Handle Adjustment B-17
Gas Cylinder
Replacement & Adjustment B-18
Actuator Cap Replacement B-19
Exploded View / Part Numbers E-10*
* multiple pages due to model / serial # break

Handle Adjustment
Step 1: Raise back section.

Note: *If back section will not move, lift seat section then remove clevis pin from bottom of gas cylinder.*

Handle Adjustment
Step 3: Rotate cam until cylinder releases. Rotate cam back until cylinder locks in place. Hold cam in place.



Handle Adjustment
Step 4: Pivot handles down until they contact back section.

Note: *Cam should not move.*

Handle Adjustment
Step 2: Loosen two set screws.

Handle Adjustment
Step 5: Tighten two set screws.

Models: *Serial Numbers:*	***222 (all)*** *All*	***622 (all)*** *All*

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Component Testing & Repair

Back Release Mechanism - continued

Gas Cylinder Replacement & Adjustment

Removal
Step 1: Lower back section all the way down.

Adjustment
Step 2: Tighten jam nut.

Adjustment
Step 1: Screw cylinder in/out one turn.
Check for proper operation.
Repeat as necessary.

Note: *If cylinder drifts, screw OUT.*
If cylinder does not release, screw IN.

Installation
Step 2: Hold cylinder shaft.
Extend shaft 2-3 in.
(Squeeze release handle gently)

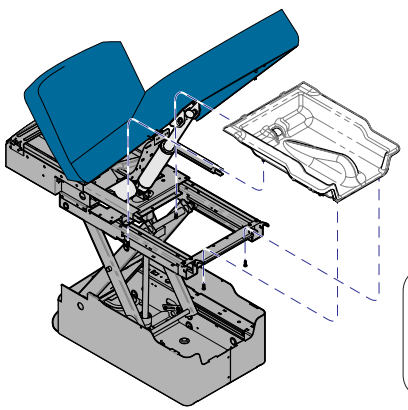
Removal
Step 2: Remove clevis pin.

Note: If clevis pin is inaccessible, refer to: *Top Cover Removal* below.

Installation
Step 3: Install clevis pin.
Perform *Adjustment*.

Removal
Step 3: Loosen jam nut.
Unscrew cylinder.

Installation
Step 1: Screw cylinder in until 3-4 threads are exposed.



Top Cover Removal
Step 1: Lower table shrouds. *(Refer to Section C)*
Remove four screws.
Raise top cover to access clevis pin.

MA607602i

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Component Testing & Repair

Actuator Cap

Replacement (Remove)

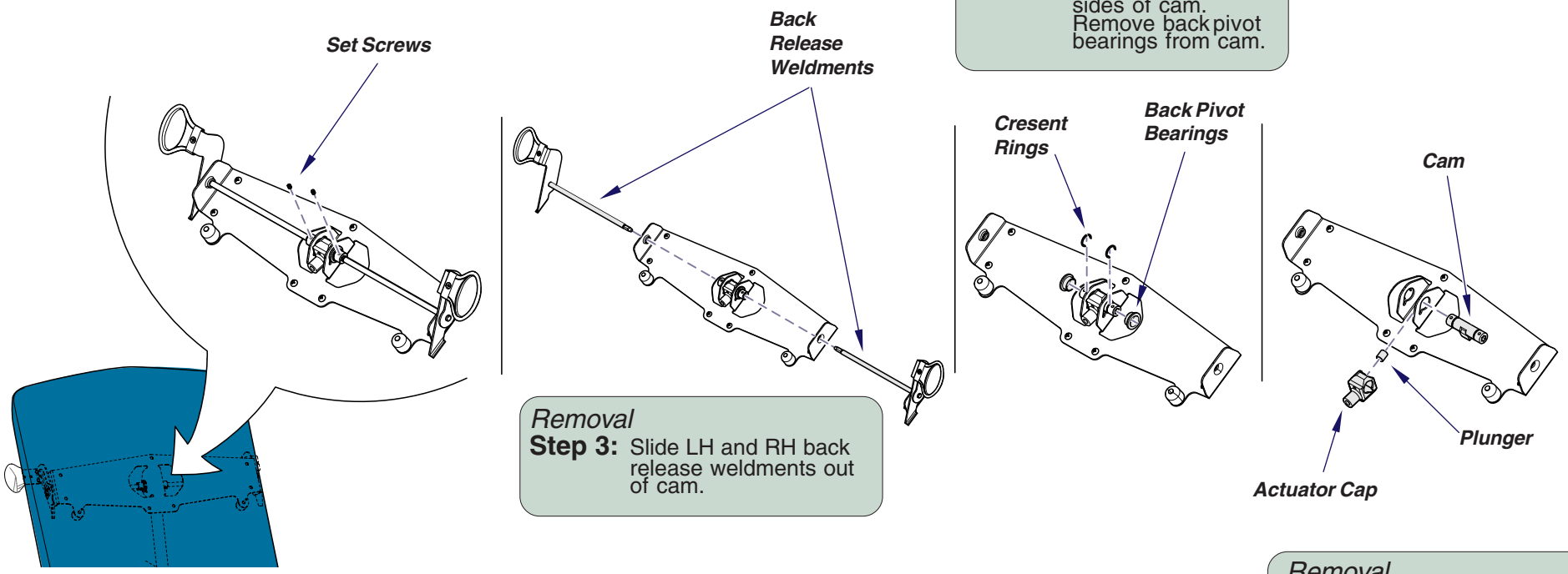
Removal
Step 1: Remove gas cylinder as shown on previous page.

Removal
Step 2: Remove (2) set screws from cam.

Removal
Step 3: Slide LH and RH back release weldments out of cam.

Removal
Step 4: Remove crescent ring from both sides of cam. Remove back pivot bearings from cam.

Removal
Step 5: Pull cam out of actuator cap. Remove plunger from actuator cap and reinstall in new actuator cap.



Models:	222 (all)	622 (all)
Serial Numbers:	All	All

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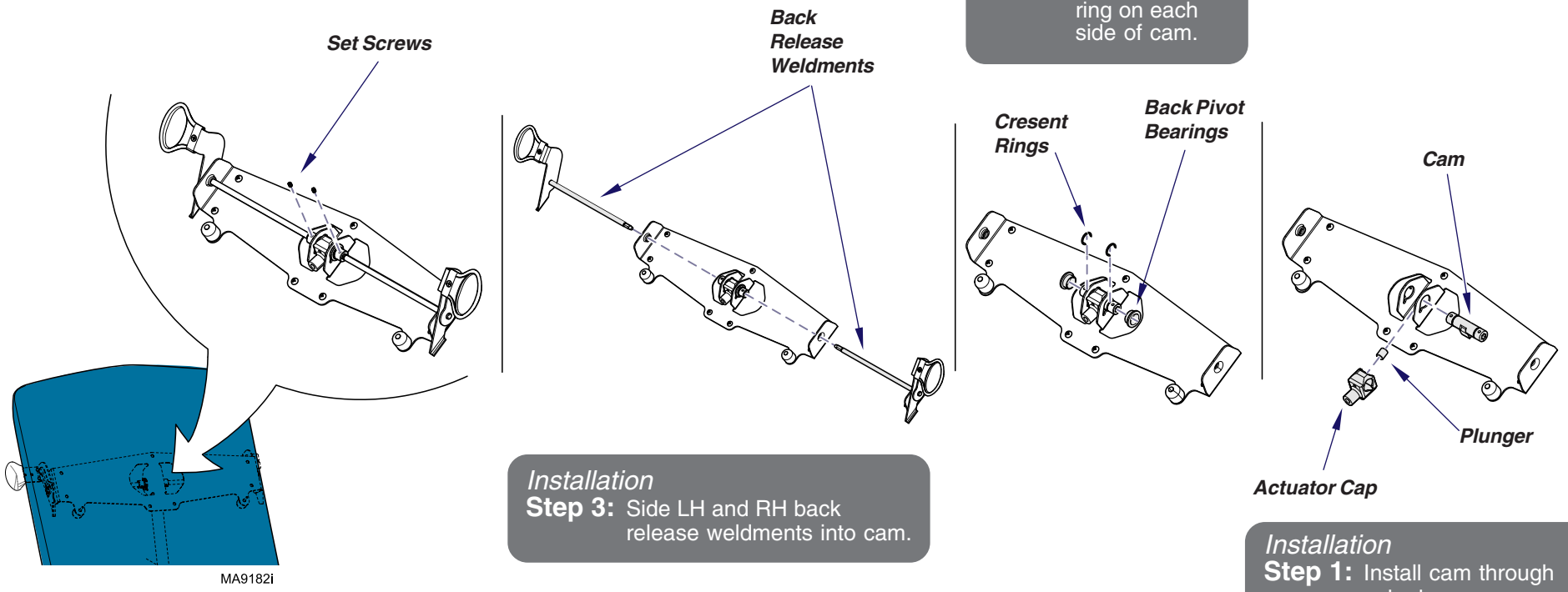
Component Testing & Repair

Actuator Cap

Replacement (Install)

Installation
Step 4: Install (2) set screw in cam. Install gas cylinder.

Installation
Step 2: Install back pivot bearings on cam. Install crescent ring on each side of cam.



Installation
Step 3: Side LH and RH back release weldments into cam.

Installation
Step 1: Install cam through actuator cap.

Acutator Cap Replacement

Models: *Serial Numbers:*	***222*** *(all)* *All*	***622*** *(all)* *All*

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Main PC Board

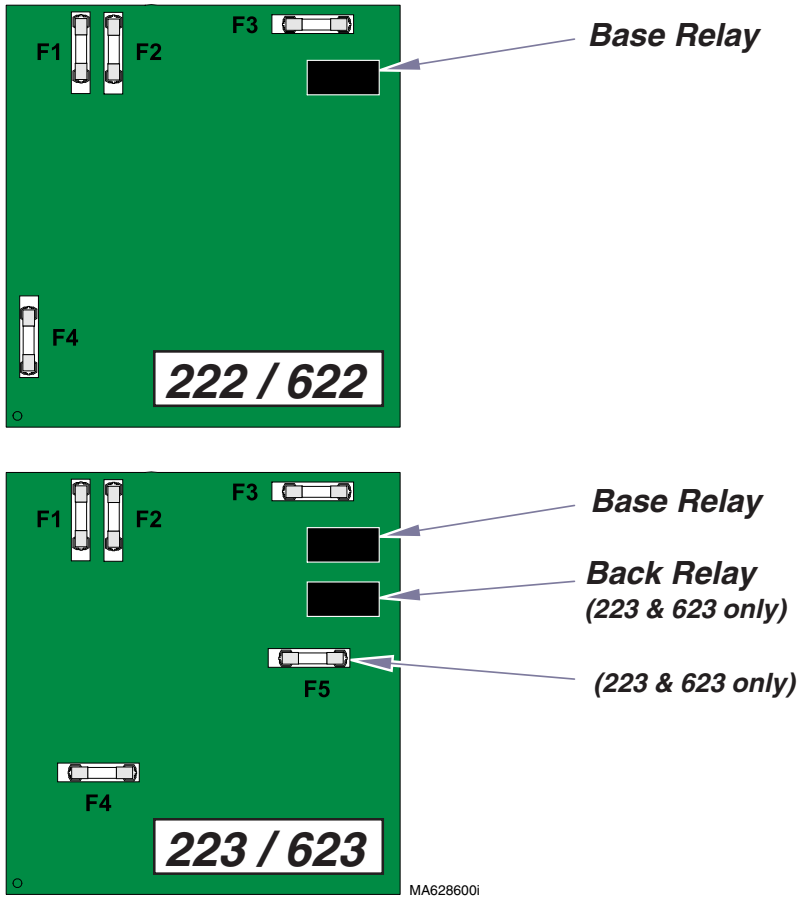
Main PC Board — Go To Page:
Base Relay Test B-22
Back Relay Test B-23
Replacement B-24
Wiring Diagrams D-1
Part Numbers
222 / 622 ..... E-23
223 / 623 ..... E-24
** multiple pages due to model / serial # break*

This illustration shows the location of the fuses on the Main PC Board.
Use the table below to determine the required action.

Problem	*Required Action*
Base actuator motor does not run.	Check fuses *(F1& F2, F3, F4)*. Perform ***Base Relay Test***
Back actuator motor does not run.	Check fuses *(F1& F2, F3, F5)*. Perform ***Back Relay Test***

- **222 / 622** ..... single function / one relay *(Base Relay)*
  Fuses:
  F1 & F2 ..... Primary Fuses *(affect all functions)*
  F3 ..... Base Motor Fuse *(affects Base Up / Down)*
  F4 ..... Transformer Fuse *(affects all functions)*

- **223 / 623** ..... dual function / two relays *(Base Relay & Back Relay)*
  Fuses:
  F1 & F2 ..... Primary Fuses *(affect all functions)*
  F3 ..... Base Motor Fuse *(affects Base Up / Down)*
  F4 ..... Transformer Fuse *(affects all functions)*
  F5 ..... Back Motor Fuse *(affects Back Up / Down)*



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Component Testing & Repair

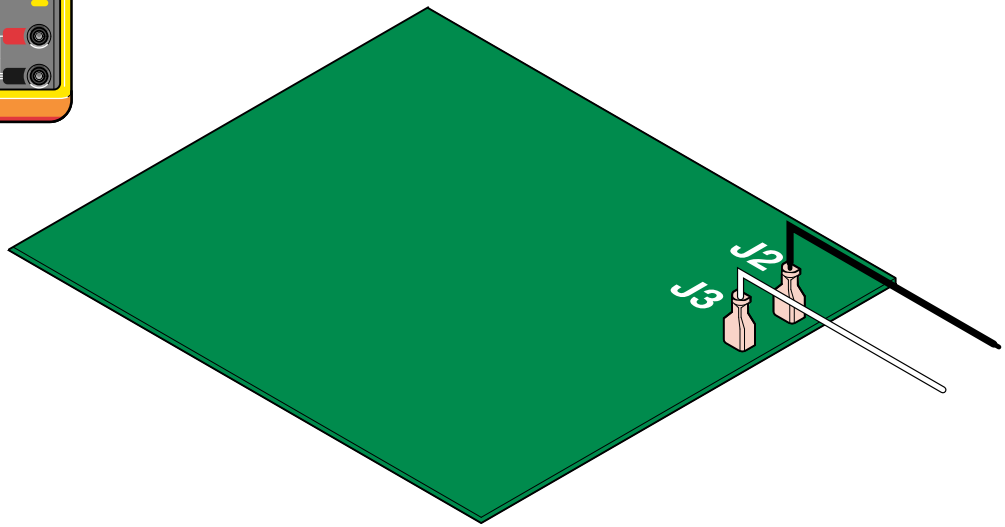
Main PC Board - continued

Base Relay Test

Base Relay Test
Step 1: Set meter to VDC.

Note: *Wires must remain connected to PC Board to perform this test.*

Base Relay Test
Step 2: Clip meter test hooks on terminals at J2 and J3.



MA718400i

Base Relay Test
Step 3: Activate Base Up / Down function using the foot or hand control.

Meter Readng	*Status*	*Required Action*
approx. 48 VDC		PC Board is good. Perform next check.
0 VDC		Replace PC Board.

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Component Testing & Repair

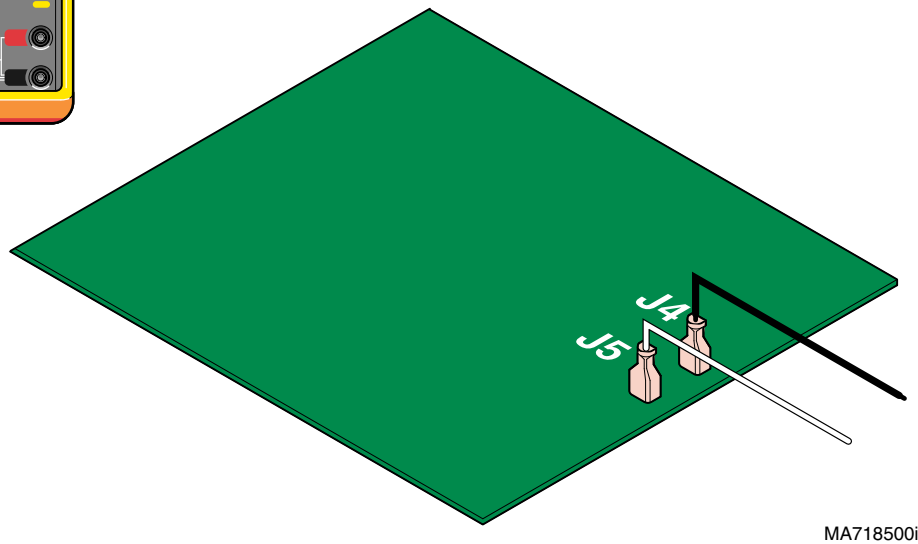
Main PC Board - continued

Back Relay Test

Back Relay Test
Step 1: Set meter to VDC.

Note: *Wires must remain connected to PC Board to perform this test.*

Back Relay Test
Step 2: Clip meter test hooks on terminals at J4 and J5.



MA718500i

Back Relay Test
Step 3: Activate Back Up / Down function using the foot or hand control.

Meter Readng	*Status*	*Required Action*
approx. 48 VDC		PC Board is good. Perform next check.
0 VDC		Replace PC Board.

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Component Testing & Repair

Main PC Board - *continued*

Replacement

Caution
Unplug power cord before removing PC Board cover.

Removal *(see Access Procedures)*
Step 1: Remove outer shrouds.

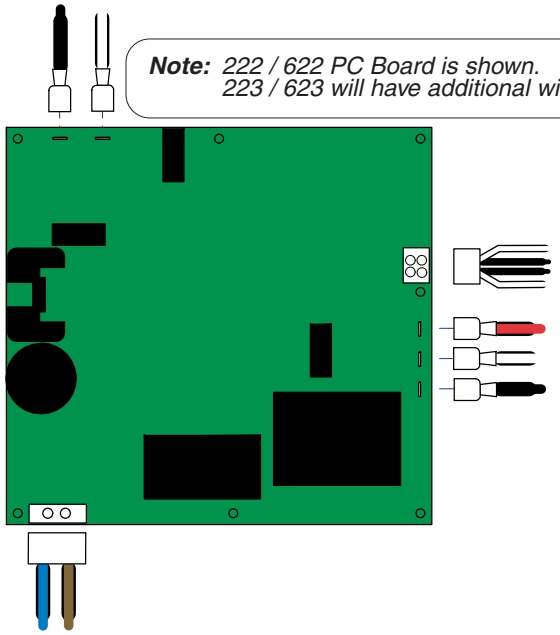
Note: *The inner and middle shrouds will drop down. It is not necessary to remove them.*

Installation *(see Access Procedures)*
Step 4: Replace outer shrouds.

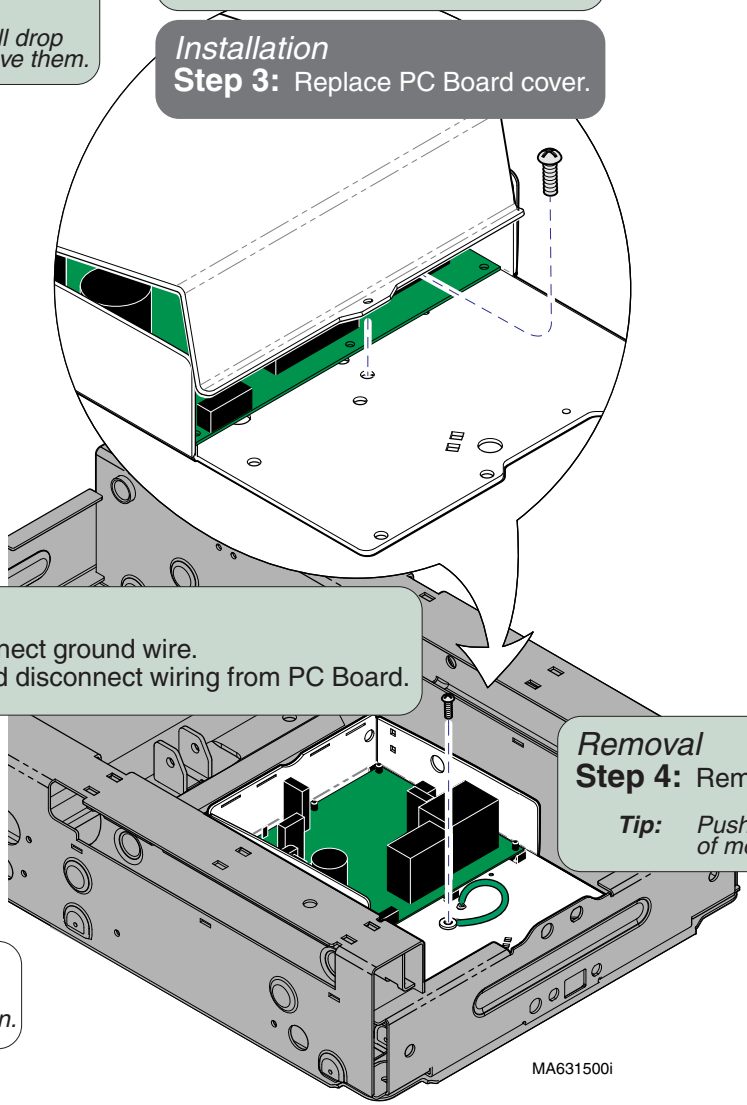
Removal
Step 2: Remove PC Board cover.

Installation
Step 3: Replace PC Board cover.

Access Procedures — **Go To Page:**
Table Shrouds
Removal / Installation C-2
Manually Raising / Lowering Table C-5



Note: *222 / 622 PC Board is shown. 223 / 623 will have additional wiring.*



Removal
Step 3: Disconnect ground wire.
Tag and disconnect wiring from PC Board.

Installation
Step 2: Connect ground wire.
Connect all wiring.

Removal
Step 4: Remove PC Board.

Tip: *Push latches back, then lift off of mounting studs.*

Installation
Step 1: Install PC Board.

Note: *Boards manufactured after 6/05 will beep for approximately three seconds when table is first pluged in.*

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Component Testing & Repair

Drawer Heater System

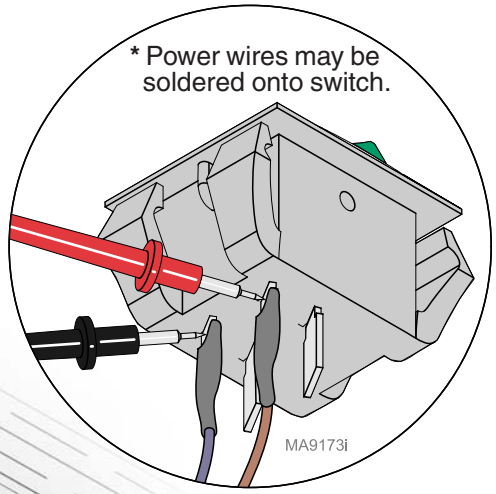
Use the table below to determine the required action.
[This table applies to all models (222 / 223 / 622 / 623)]

Problem	*Required Action*
Drawer heater does not warm up. Heater switch does not illuminate	Perform ***Heater Switch Test***
Drawer heater does not warm up. Heater switch illuminates.	Perform ***Heater Plate Test***
Drawer heater - OK Heater switch does not illuminate	Replace heater switch.

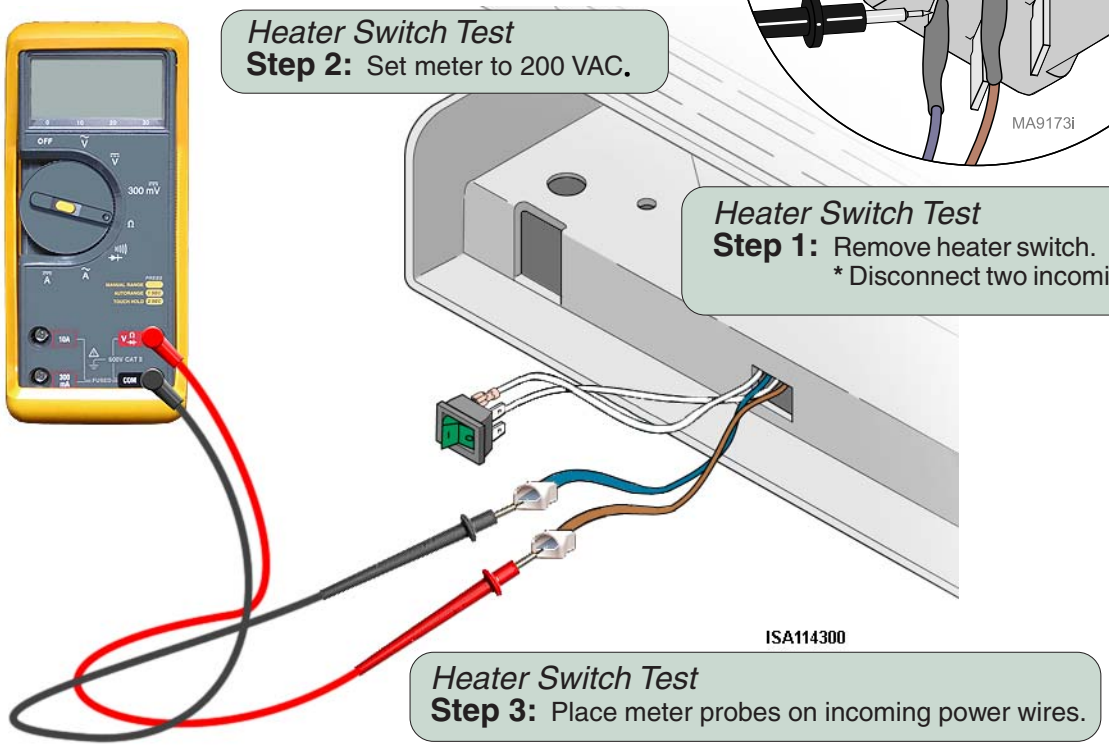
Drawer Heater System — *Go To Page:*

Distribution Board Fuses B-2
Heater Switch Test:
222 / 223 ..... B-25
622 / 623 ..... B-26
Switch Replacement 622 / 623 ..... B-27
Heater Plate Test:
222 / 223 ..... B-28
622 / 623 ..... B-29
Heater Plate Replacement B-30
Wiring Diagrams D-1
Part Numbers E-31*

** multiple pages due to model / serial # break*



Heater Switch Test - ***222 / 223***



Heater Switch Test
Step 2: Set meter to 200 VAC.

Heater Switch Test
Step 1: Remove heater switch.
* Disconnect two incoming power wires.

Heater Switch Test
Step 3: Place meter probes on incoming power wires.

Meter Readng	*Status*	*Required Action*
***approx.* 115 VAC**		Replace switch.
0 VAC		Switch OK. Check connections & fuses

Models: *Serial Numbers:*	***222*** *All*	***223*** *All*

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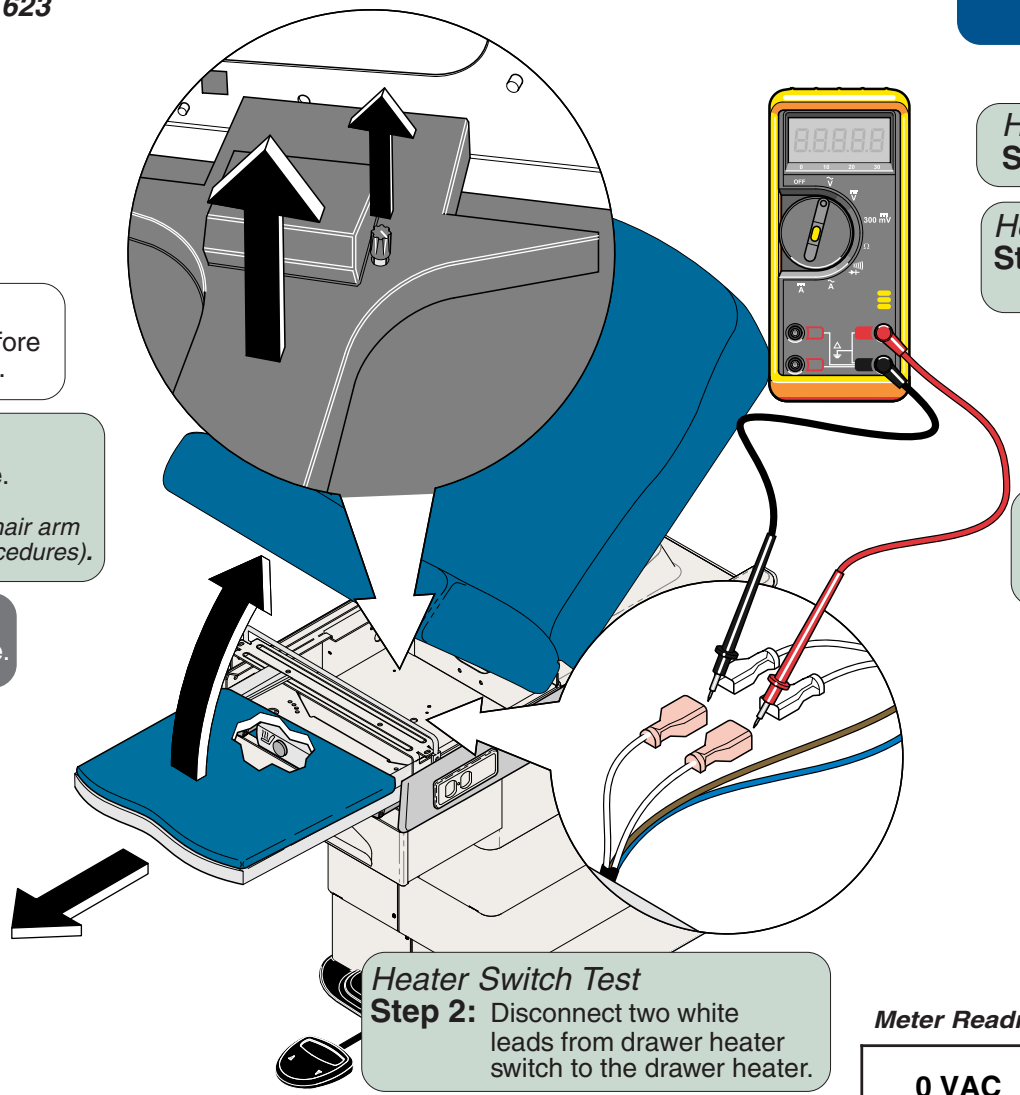
Component Testing & Repair

Drawer Heater System - continued

*Heater Switch Test - **622 / 623***

Access Procedures Go To Page:
Chair Arm Brace Removal C-8



Caution
Unplug power cord before removing stirrup guide.

Removal
Step 1: Remove stirrup guide.

Note: *If necessary, remove chair arm brace (see Access Procedures).*

Installation
Step 2: Replace stirrup guide.

Heater Switch Test
Step 2: Disconnect two white leads from drawer heater switch to the drawer heater.

Heater Switch Test
Step 3: Set meter to 200 VAC.

Heater Switch Test
Step 4: Place meter probes on two white leads from switch.

Heater Switch Test
Step 5: Plug in power cord, then depress switch to ON.

Caution
Unplug power cord before re-connecting electrical leads.

Installation
Step 1: Re-connect electrical leads.

Meter Readng	*Status*	*Required Action*
0 VAC		Replace switch.
approx. **115 VAC**		Switch OK. Check Heater Plate.

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Component Testing & Repair

Drawer Heater System - *continued*

Access Procedures — Go To Page:
Chair Arm Brace Removal C-8

Heater Switch Replacement - ***622 / 623***

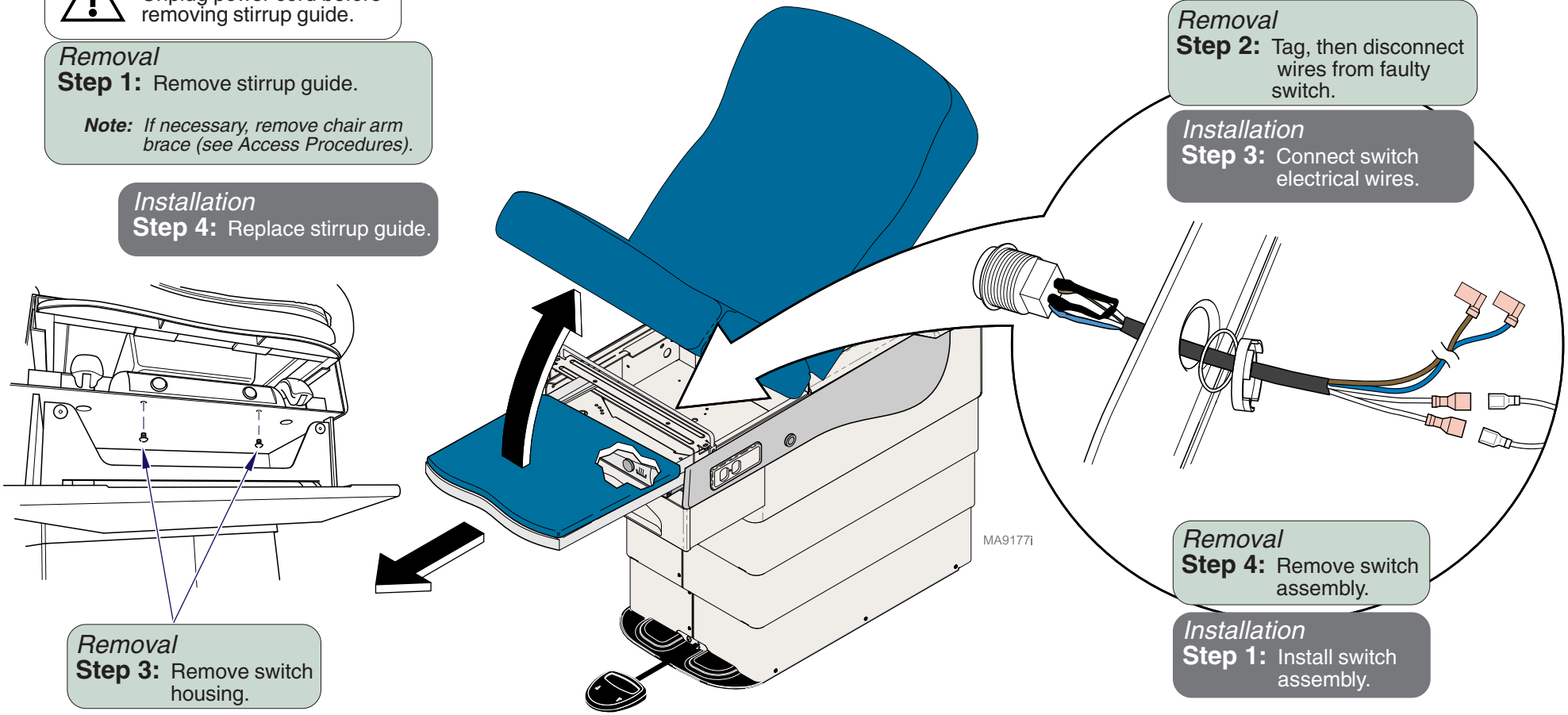
(This procedure also applies to the upholstery heater switch)

Caution
Unplug power cord before removing stirrup guide.

Removal
Step 1: Remove stirrup guide.

Note: *If necessary, remove chair arm brace (see Access Procedures).*

Installation
Step 4: Replace stirrup guide.



Removal
Step 2: Tag, then disconnect wires from faulty switch.

Installation
Step 3: Connect switch electrical wires.

Removal
Step 4: Remove switch assembly.

Installation
Step 1: Install switch assembly.

Removal
Step 3: Remove switch housing.

Installation
Step 2: Install switch housing.

Models: *Serial Numbers:*	***622*** *All*	***623*** *All*

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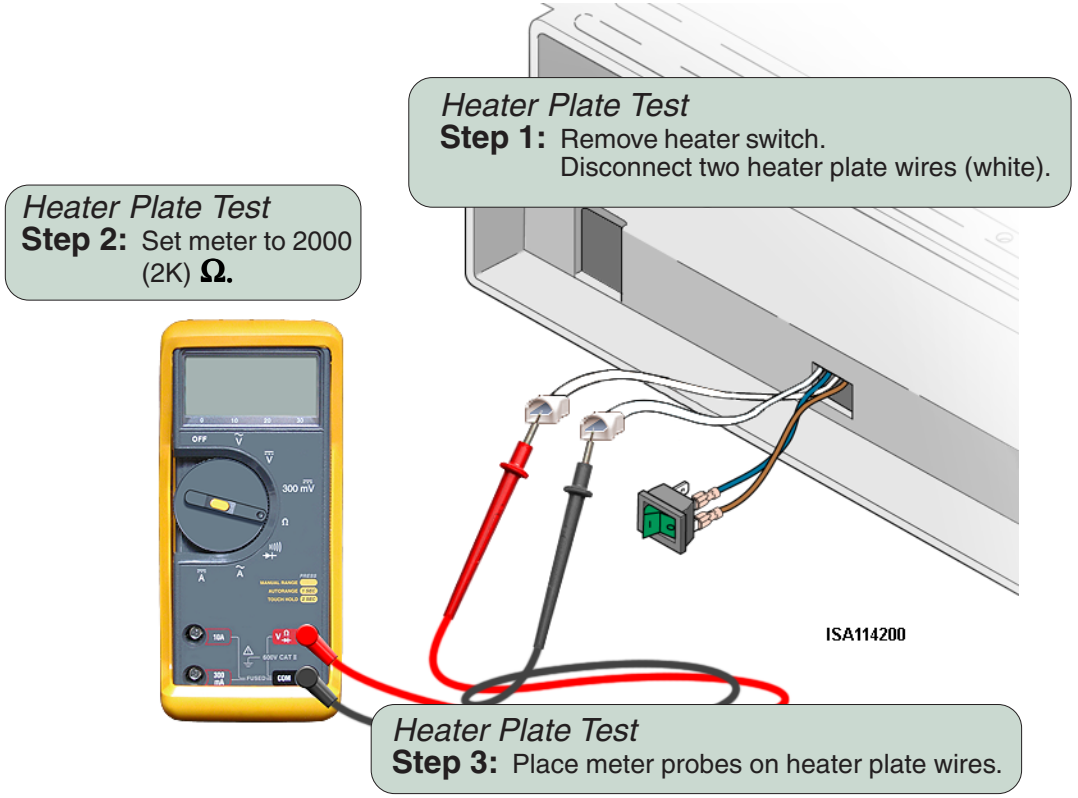
Component Testing & Repair

Drawer Heater System - continued

*Heater Plate Test -**222 / 223***


Heater Plate Test
Step 1: Remove heater switch.
Disconnect two heater plate wires (white).
Heater Plate Test
Step 2: Set meter to 2000 (2K) Ω.
ISA114200
Heater Plate Test
Step 3: Place meter probes on heater plate wires.

Meter Readng	*Status*	*Required Action*
***approx.* 360 Ω**		Heater plate is good.
***0* Ω**		Replace heater plate.

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Component Testing & Repair

Drawer Heater System - continued

*Heater Plate Test -**622 / 623***

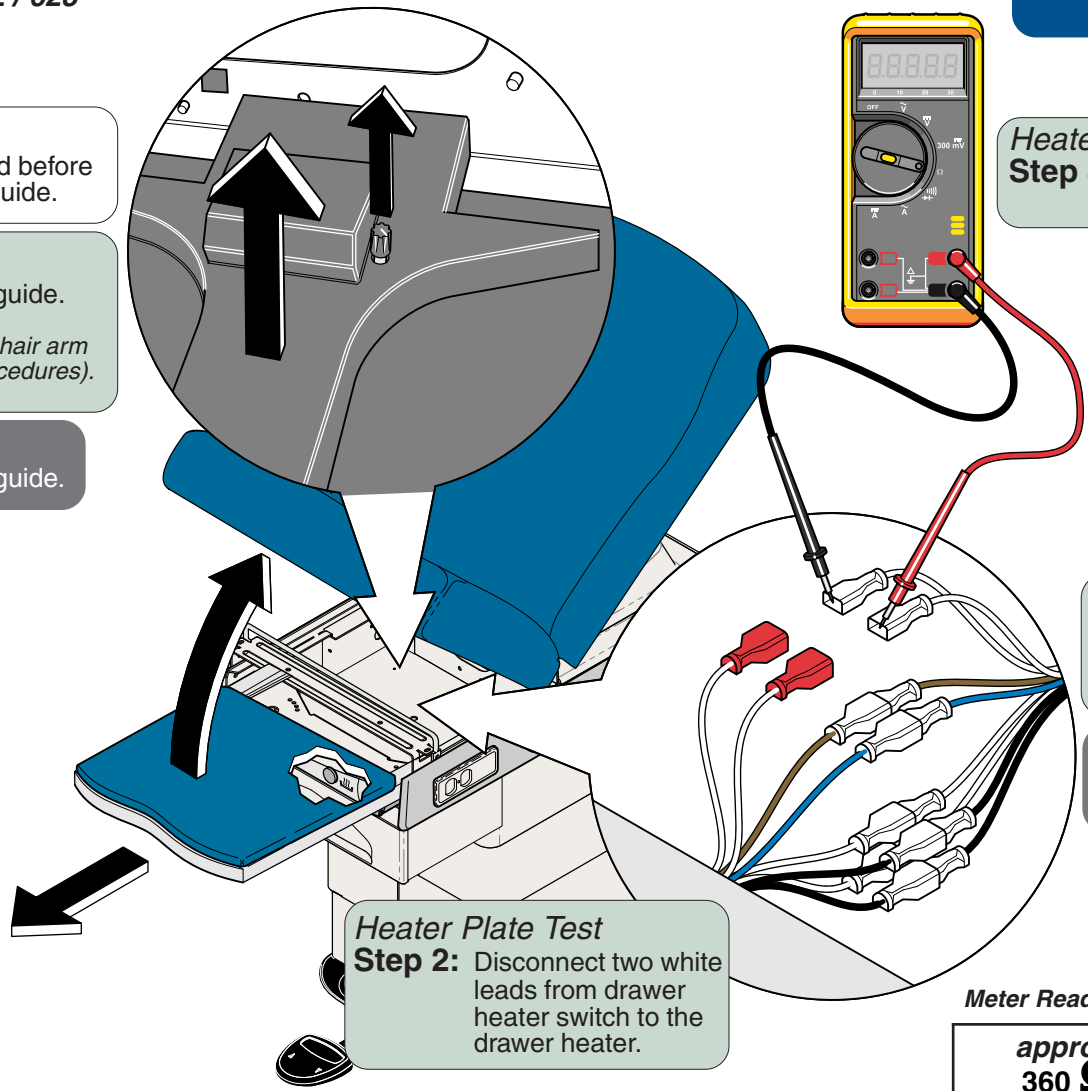
Access Procedures Go To Page:
Chair Arm Brace Removal C-8

Caution
Unplug power cord before removing stirrup guide.

Removal
Step 1: Remove stirrup guide.

Note: *If necessary, remove chair arm brace (see Access Procedures).*

Installation
Step 2: Replace stirrup guide.



Heater Plate Test
Step 3: Set meter to 2000 (2K) **Ω.**

Heater Plate Test
Step 4: Place meter probes on terminals of heater plate wires.

Installation
Step 1: Re-connect electrical leads.

Heater Plate Test
Step 2: Disconnect two white leads from drawer heater switch to the drawer heater.

Meter Readng	*Status*	*Required Action*
***approx.* 360 Ω**		Heater plate is good. Perform next check.
***0* Ω**		Replace heater plate.

Models: *Serial Numbers:*	***622*** *All*	***623*** *All*

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Component Testing & Repair

Drawer Heater System - continued

Heater Plate Replacement

Attention
If there is not a wire connection here, you must lower table shrouds and remove the top cover in order to disconnect / route heater plate wires.

Removal
Step 1: Remove screw(s) from drawer slides.

Installation
Step 3: Install screw.

Installation
Step 3: Install drawer.

Removal
Step 2: Push LH slide lever UP and RH lever DOWN. Remove drawer.

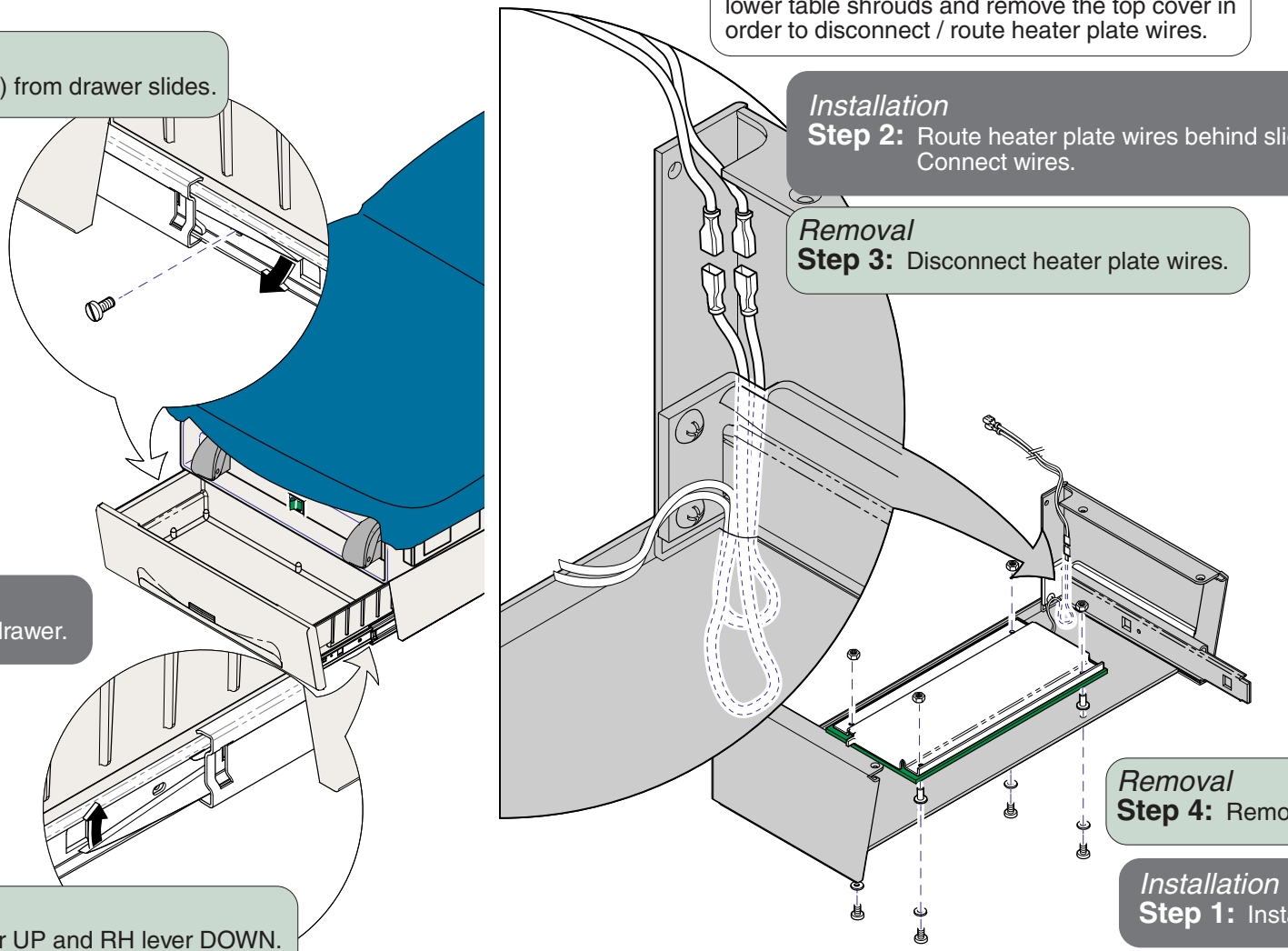
Note: *Slide levers are clear plastic.*

Installation
Step 2: Route heater plate wires behind slide. Connect wires.

Removal
Step 3: Disconnect heater plate wires.

Removal
Step 4: Remove heater plate.

Installation
Step 1: Install heater plate.



MA633800i

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Component Testing & Repair

Upholstery Heater System

Use the table below to determine the required action.

Problem	*Required Action*
Upholstery heater does not warm up. Heater switch does not illuminate	Perform ***Upholstery PC Board Test***
Upholstery heater does not warm up. Heater switch illuminates.	Perform ***Upholstery Heater Test***
Upholstery heater - OK Heater switch does not illuminate	Replace heater switch.

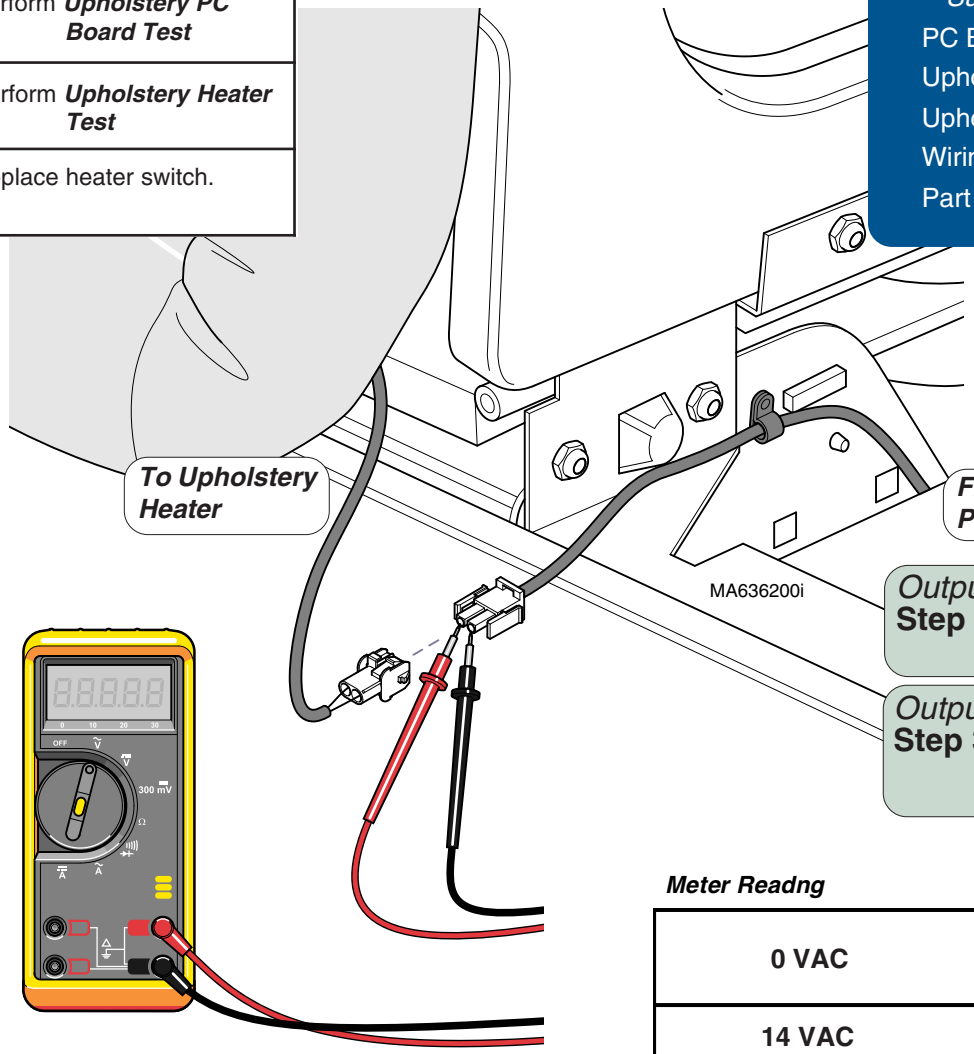
Upholstery Heater System — ***Go To Page:***

Upholstery Heater PC Board Test:
- *Output Voltage Test* B-31
- *Supply Voltage Test* B-32

PC Board Replacement B-33
Upholstery Heater Test B-34
Upholstery Heater Switch Test B-35
Wiring Diagrams D-1
Part Numbers E-33

Upholstery Heater PC Board Test

(Output Voltage Test)



Output Voltage Test
Step 1: Disconnect leads to upholstery heater.

Output Voltage Test
Step 2: Set meter to 20 VAC.

Output Voltage Test
Step 3: Place meter probes on leads from upholstery heater PC Board.

Output Voltage Test
Step 4: Press Upholstery (Green) Heater switch ON.

Meter Readng	*Status*	*Required Action*
0 VAC		Check supply voltage to heater PC board
14 VAC + /- 3 VAC		Check upholstery heater

Models: *Serial Numbers:*	*622* *All*	*623* *All*

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Component Testing & Repair

Upholstery Heater System - continued

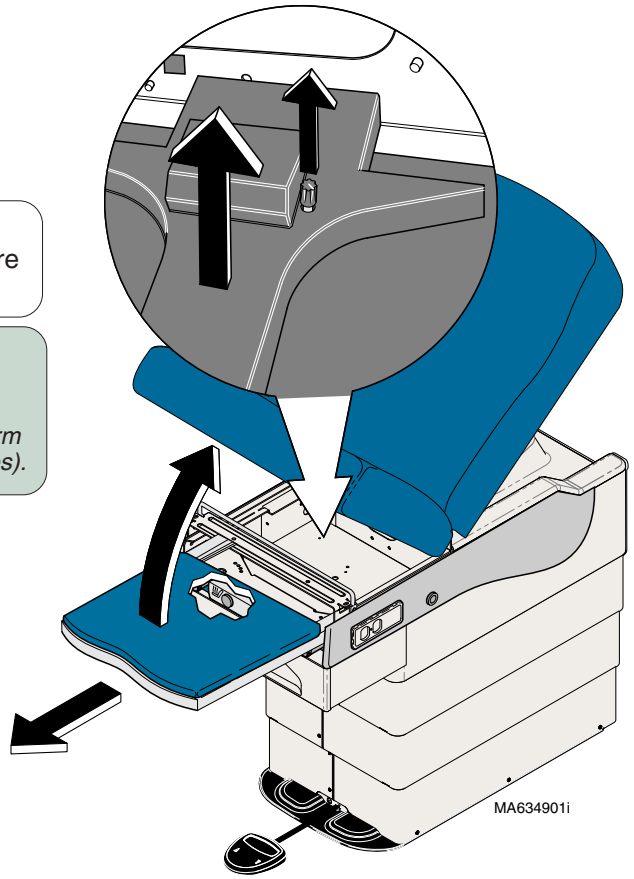
Upholstery Heater PC Board Test - continued

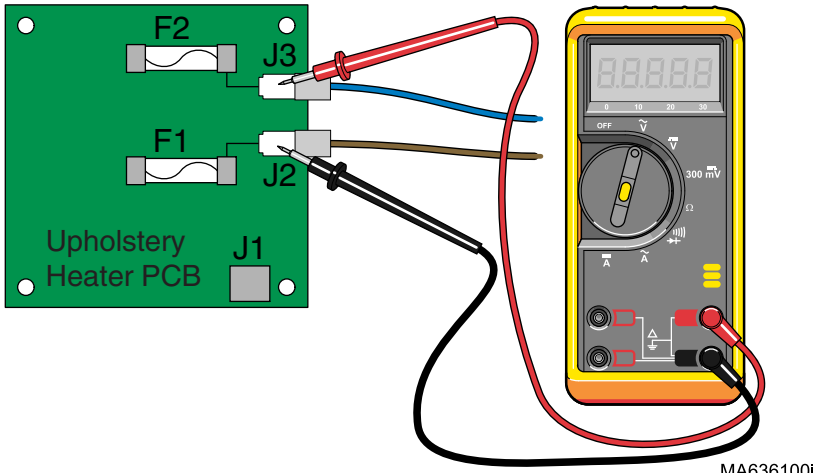
(Supply Voltage Test)

Caution
Unplug power cord before removing stirrup guide.

Supply Voltage Test
Step 1: Remove stirrup guide.

Note: *If necessary, remove chair arm brace (see Access Procedures).*





Supply Voltage Test
Step 2: Set meter to 200 VAC.

Supply Voltage Test
Step 3: Place meter probes on J2 & J3 of Upholstery Heater PCB and plug table into outlet.

Meter Readng	*Status*	*Required Action*
0 **VAC**		Check incoming power source to table.
115 **VAC**		Check connections & F1 / F2 fuses on PCB.

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Upholstery Heater System - continued

Upholstery Heater PC Board Replacement

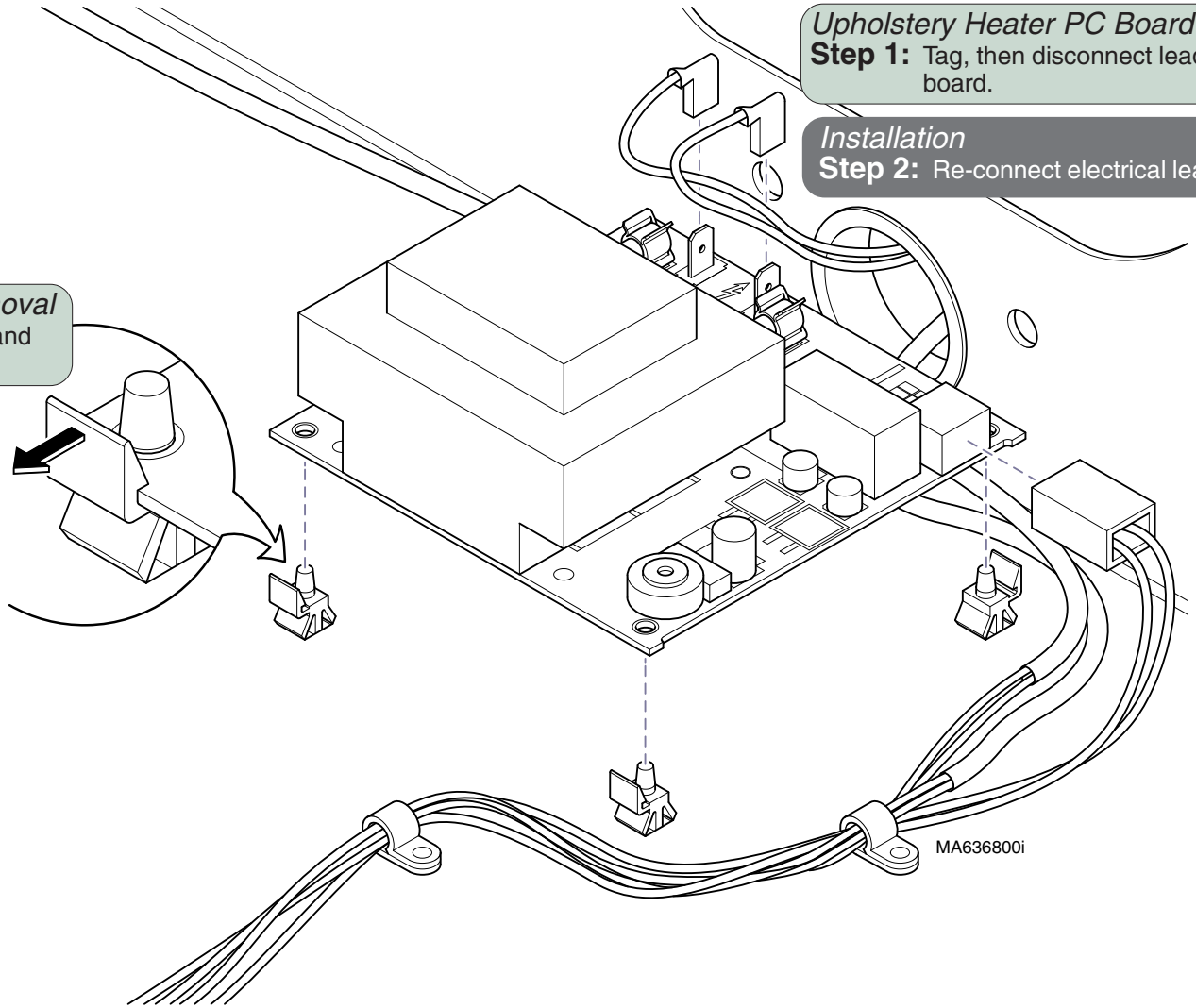
Caution
Unplug power cord before removing PC Board cover.

Upholstery Heater PC Board Removal
Step 1: Tag, then disconnect leads to PC board.

Installation
Step 2: Re-connect electrical leads.

Upholstery Heater PC Board Removal
Step 2: Depress release on standoffs and remove PC Board.

Installation
Step 1: Replace PC Board.



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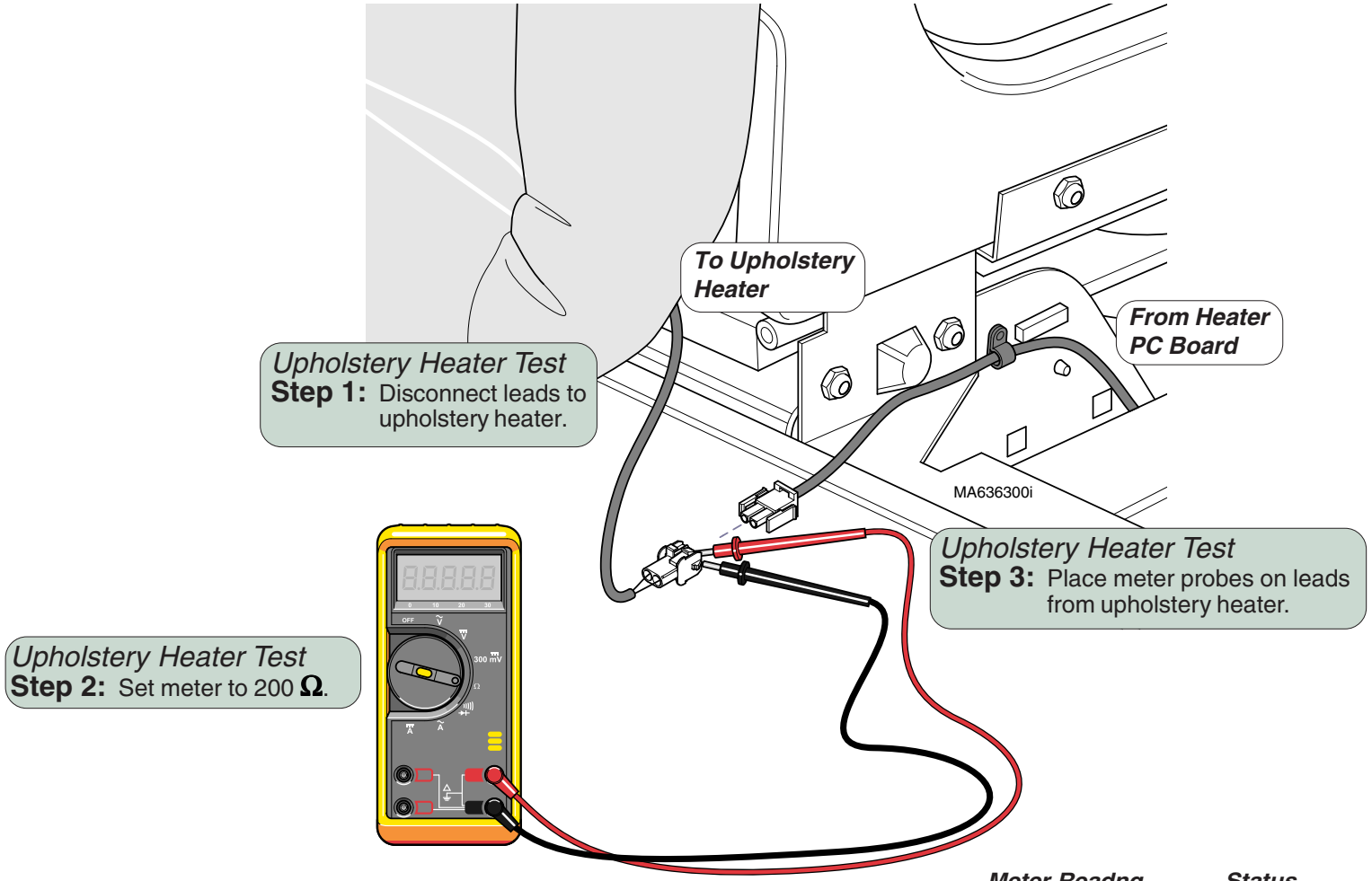
Component Testing & Repair

Upholstery Heater System - continued

Upholstery Heater Test


To Upholstery Heater
From Heater PC Board
Upholstery Heater Test
Step 1: Disconnect leads to upholstery heater.
MA636300i
Upholstery Heater Test
Step 3: Place meter probes on leads from upholstery heater.
Upholstery Heater Test
Step 2: Set meter to 200 Ω.

Meter Readng	*Status*	*Required Action*
0 Ω		Replace Upholstery
3 - 4 Ω		Check Upholstery Heater Switch.

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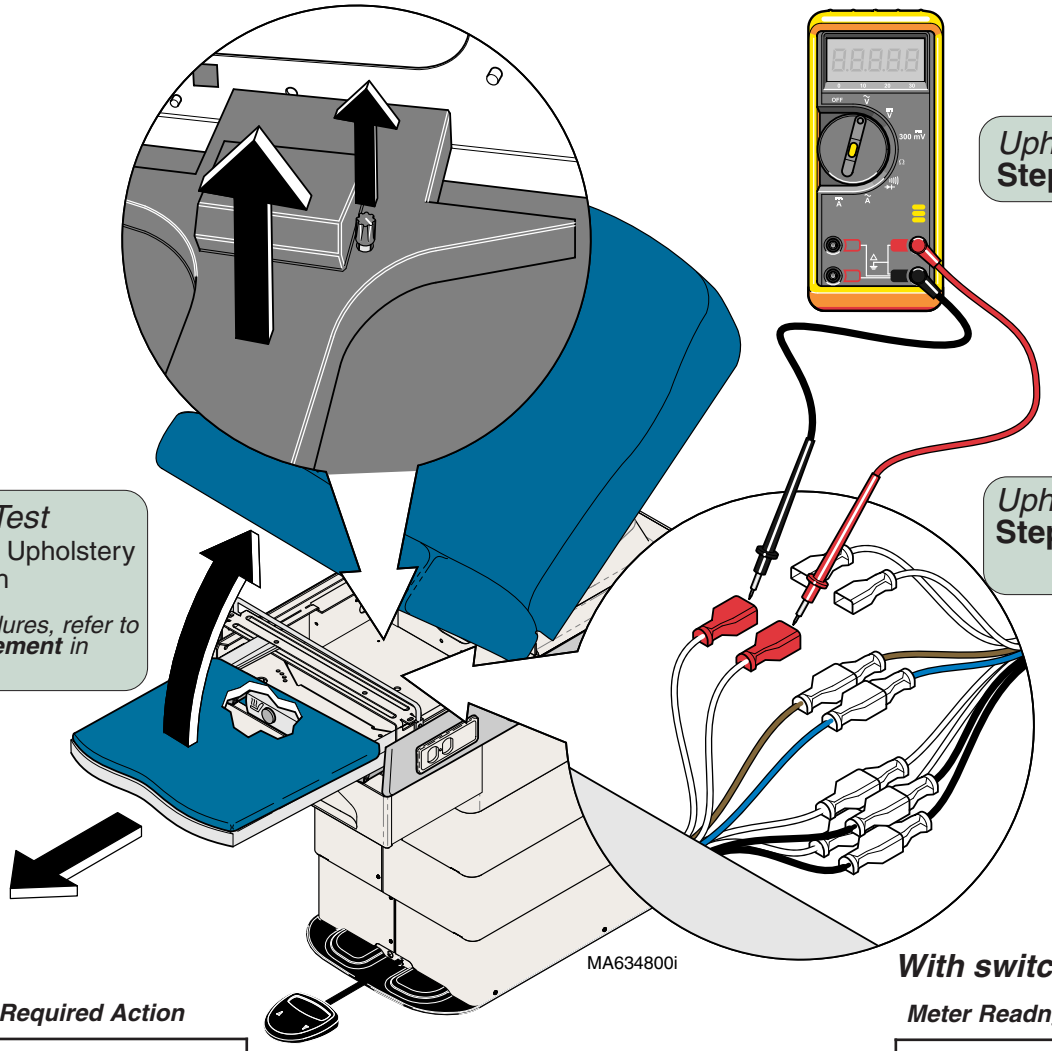
Component Testing & Repair

Upholstery Heater System - *continued*

Upholstery Heater SwitchTest



Upholstery Heater SwitchTest
Step 1: Set meter to 200 **Ω.**

Upholstery Heater SwitchTest
Step 2: Disconnect Black leads from Switch and insert meter probes.

Upholstery Heater SwitchTest
Step 3: Depress & hold in the Upholstery Heater (Green) Switch

Note: *For replacement procedures, refer to* ***Heater Switch Replacement*** *in Drawer Heater System*

With switch 'tripped'...

Meter Readng	*Status*	*Required Action*
Any resistance reading		Switch is good. Perform next check.
OL		Replace switch

With switch 'untripped'...

Meter Readng	*Status*	*Required Action*
Any resistance reading		Replace switch.
OL		Switch is good. Perform next check.

Models: *Serial Numbers:*	***622*** *All*	***623*** *All*

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Go To Table Of Contents

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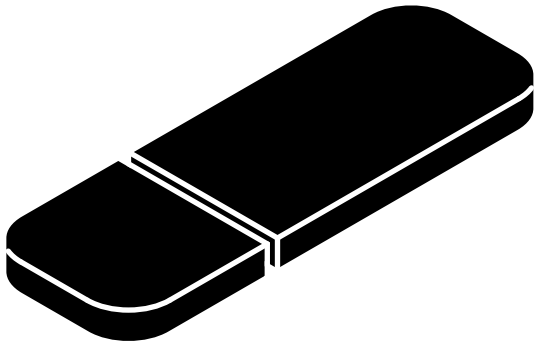
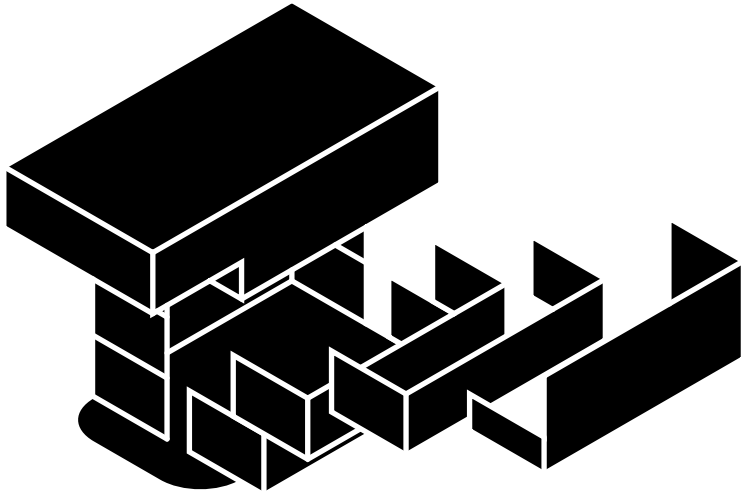
Section C

Access Procedures

Procedure	Go To Page:
Table Shrouds *(Remove / Install)*	C-2
Manually Raising / Lowering Table	C-5
Upholstered Top *(Remove / Install)*:	
Ritter models	C-6*
Midmark models	C-7*
Chair Arm / Brace Removal	C-8
Top Cover *(Remove Install)*	C-9
Back Limit Switch Access	C-9

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. C-2)





Component Testing & Repair

Table Shrouds

Removal / Installation

Refer To: **Go To Page:**

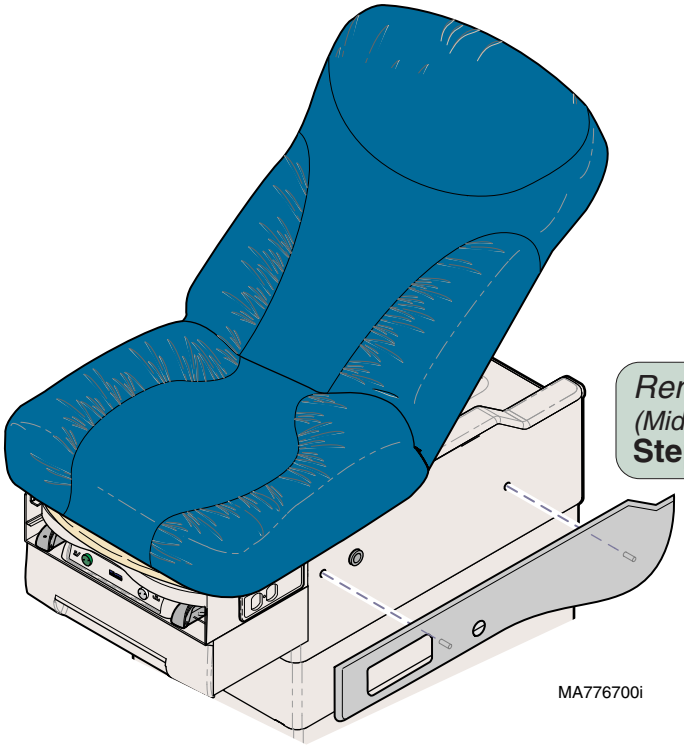
Exploded Views / Part Numbers:

Table Shrouds (Ritter models) E-14*

Table Shrouds (Midmark models) E-15*

** multiple pages due to model / serial # break*

Note
Remove all accessories *(ex. chair arms)* before performing this procedure.



MA776700i

Removal
(Midmark models only)
Step 1: Remove magnetic cladding.

Removal
Step 2: Remove screw(s) from drawer slides.

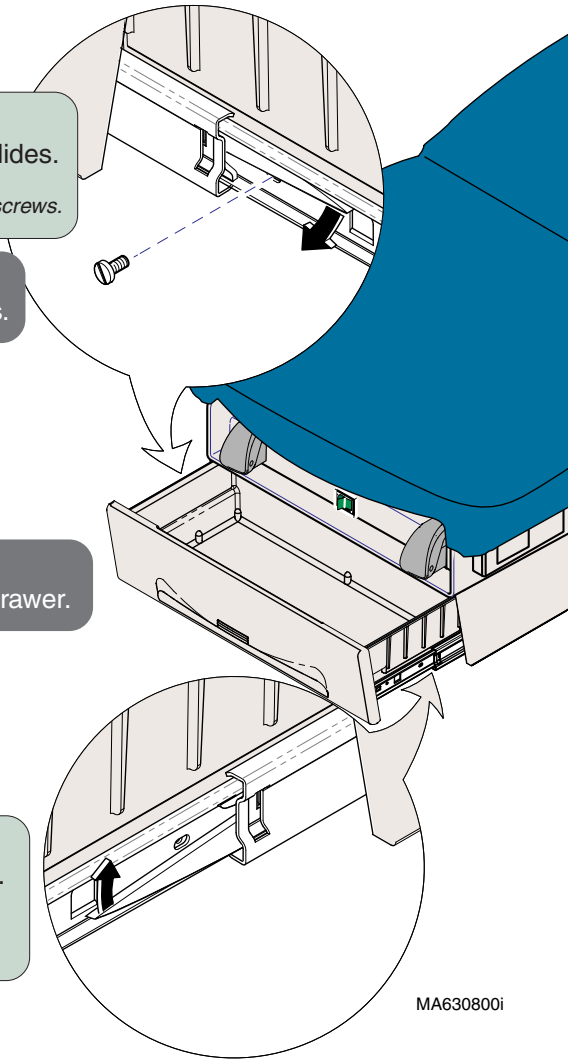
Note: *Tables w/o drawer heater do not have screws.*

Installation
Step 7: Install screw(s) in drawer slides.

Installation
Step 6: Install drawer.

Removal
Step 3: Push LH slide lever UP and RH lever DOWN. Remove drawer.

Note: *Slide levers are clear plastic.*



MA630800i

Table Shrouds

Models: ***All***
Serial Numbers: *All*

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Component Testing & Repair

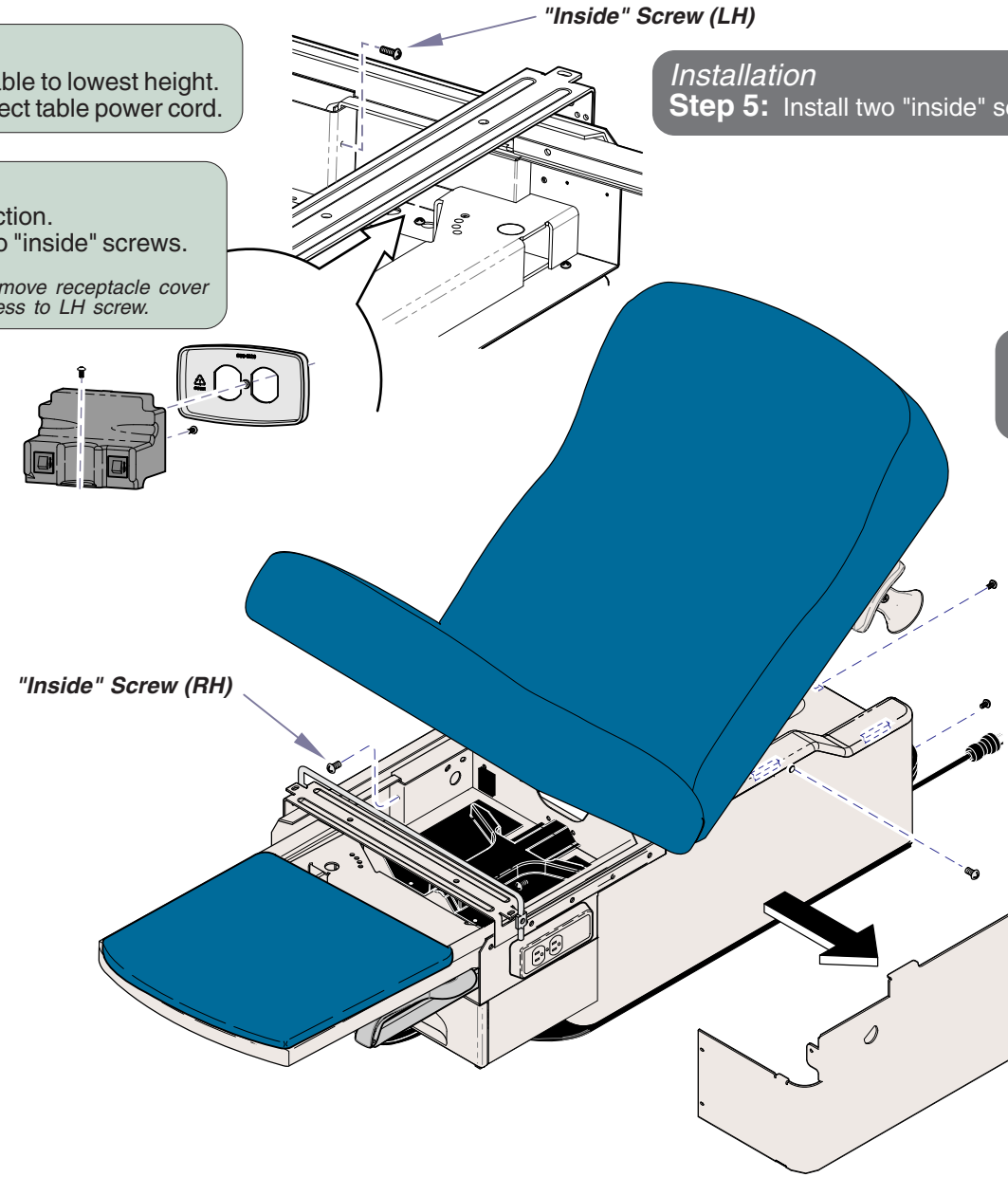
Table Shrouds - continued

Removal / Installation

Removal
Step 4: Lower table to lowest height.
Disconnect table power cord.

Removal
Step 5: Lift seat section.
Remove two "inside" screws.

Note: *If necessary, move receptacle cover for better access to LH screw.*



Installation
Step 5: Install two "inside" screws.

Installation
Step 4: Install screws at head-end & foot-end of outer shrouds.

Removal
Step 6: Remove screws from head-end & foot-end of outer shrouds.

Note: *Lower the drawer front to access foot-end screws.*

Removal
Step 7: Remove side screw & outer shroud.
Repeat for other side.

Installation
Step 3: Position outer shroud.
Install side screw.
Repeat on opposite side.

Models: ***All***
Serial Numbers: *All*

Table Shrouds

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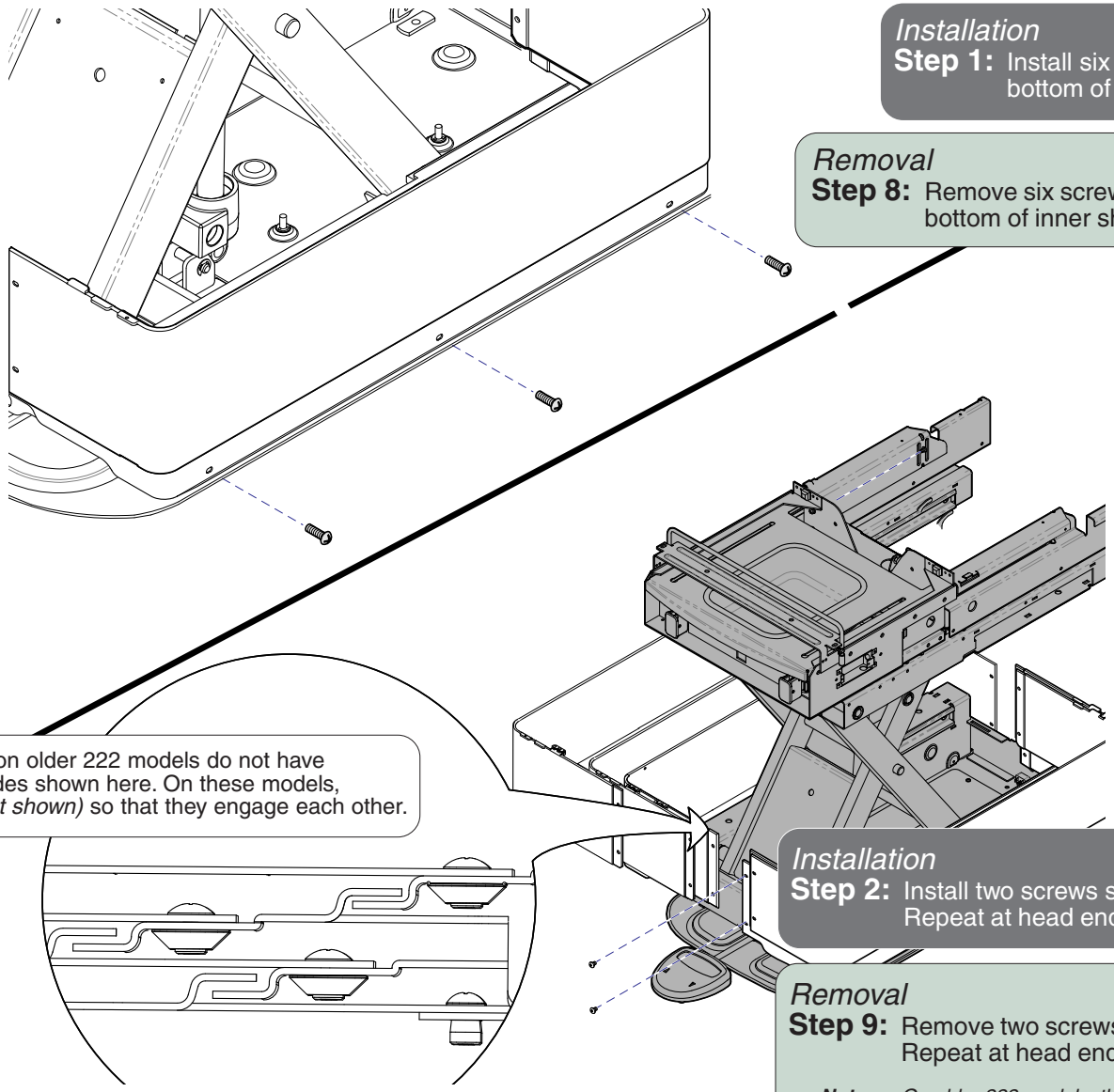
Component Testing & Repair

Table Shrouds - continued

Removal / Installation



Installation
Step 1: Install six screws securing bottom of inner shrouds.

Removal
Step 8: Remove six screws securing bottom of inner shrouds.

Note: The shrouds on older 222 models do not have the offset guides shown here. On these models, align tabs *(not shown)* so that they engage each other.

Installation
Step 2: Install two screws securing each set of shrouds. Repeat at head end of table.

Removal
Step 9: Remove two screws securing each set of shrouds. Repeat at head end of table.

Note: *On older 222 models, there is a wire connecting the shrouds. This must remain in place to ensure proper grounding.*

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Component Testing & Repair

Manually Raising / Lowering Table

Refer To: **Go To Page:**

Exploded Views / Part Numbers:

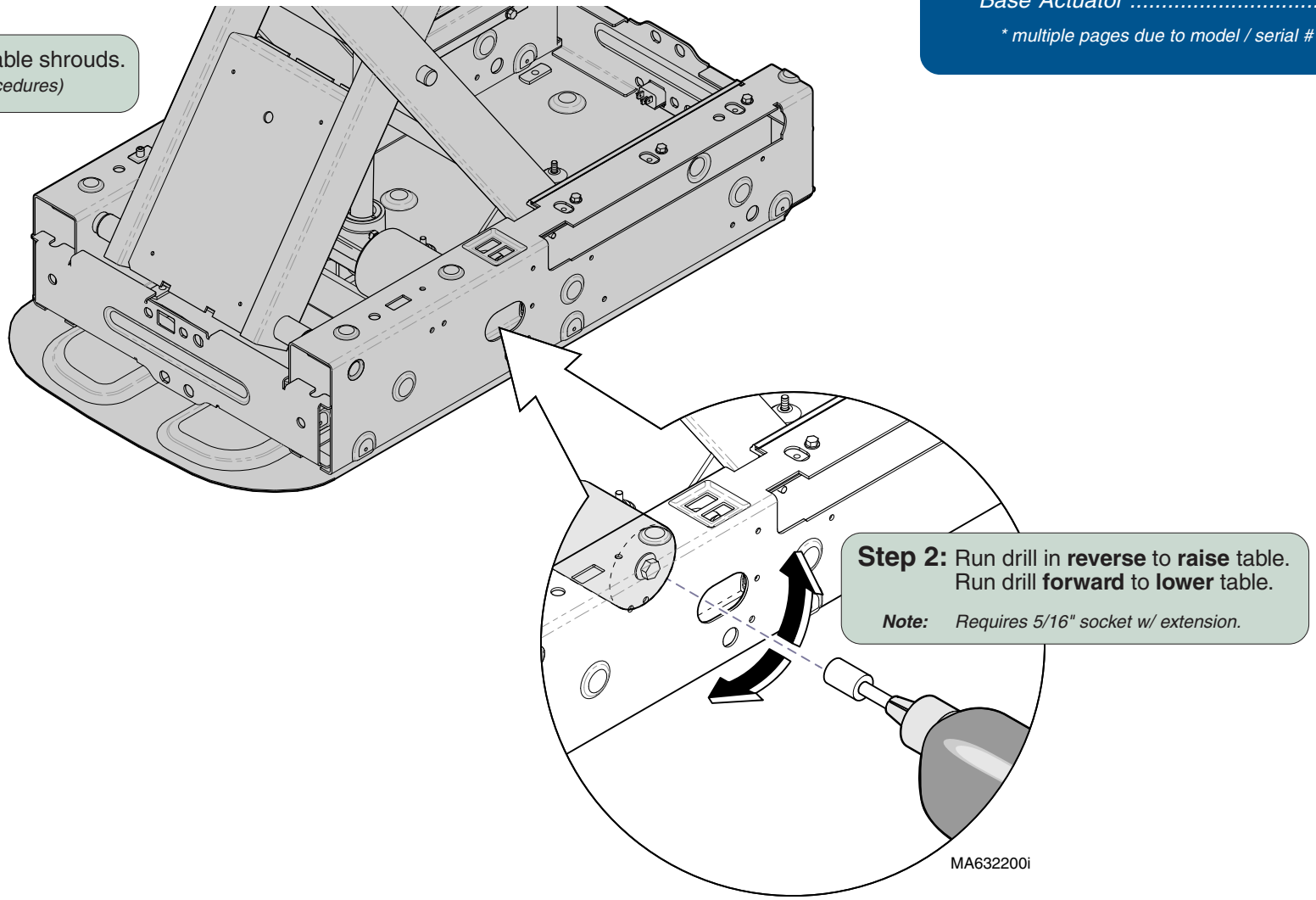
Ritter Base Components E-20*

Midmark Base Components E-21*

Base Actuator E-22

** multiple pages due to model / serial # break*

Step 1: Remove table shrouds.
(Access Procedures)



Step 2: Run drill in **reverse** to **raise** table.
Run drill **forward** to **lower** table.

Note: *Requires 5/16" socket w/ extension.*

MA632200i

Models: ***All***
Serial Numbers: *All*

Manually Raising / Lowering

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Component Testing & Repair

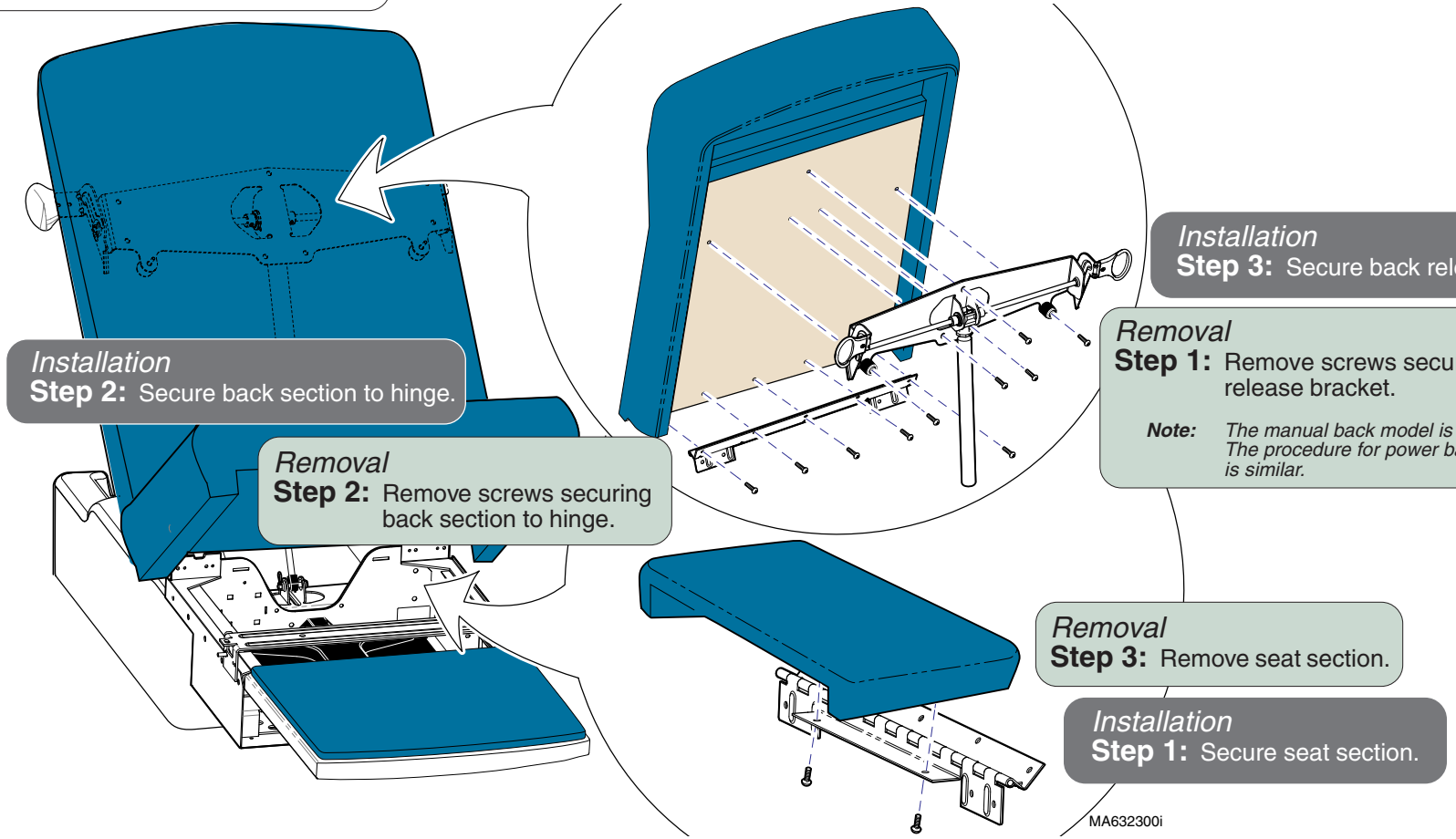
Upholstered Top (Ritter models)

Refer To: Go To Page:
Exploded Views / Part Numbers:
Upholstery - Ritter :
Soft Touch E-6
Seamless E-7

Removal / Installation
(Soft Touch Top shown)

Attention
Seamless / Styled tops are one piece. The replacment procedure is similar.

Caution
Hold back section in place when performing steps 1 & 2.



Installation
Step 3: Secure back release bracket.

Removal
Step 1: Remove screws securing back release bracket.

Note: *The manual back model is shown. The procedure for power back models is similar.*

Installation
Step 2: Secure back section to hinge.

Removal
Step 2: Remove screws securing back section to hinge.

Removal
Step 3: Remove seat section.

Installation
Step 1: Secure seat section.

MA632300i

Upholstered Top *(Ritter models)*

Models: *Serial Numbers:*	***222*** *(-001 thru -014)* *All*	***223*** *(-001 thru -014)* *All*

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Component Testing & Repair

Upholstered Top (Ritter models)

Removal / Installation

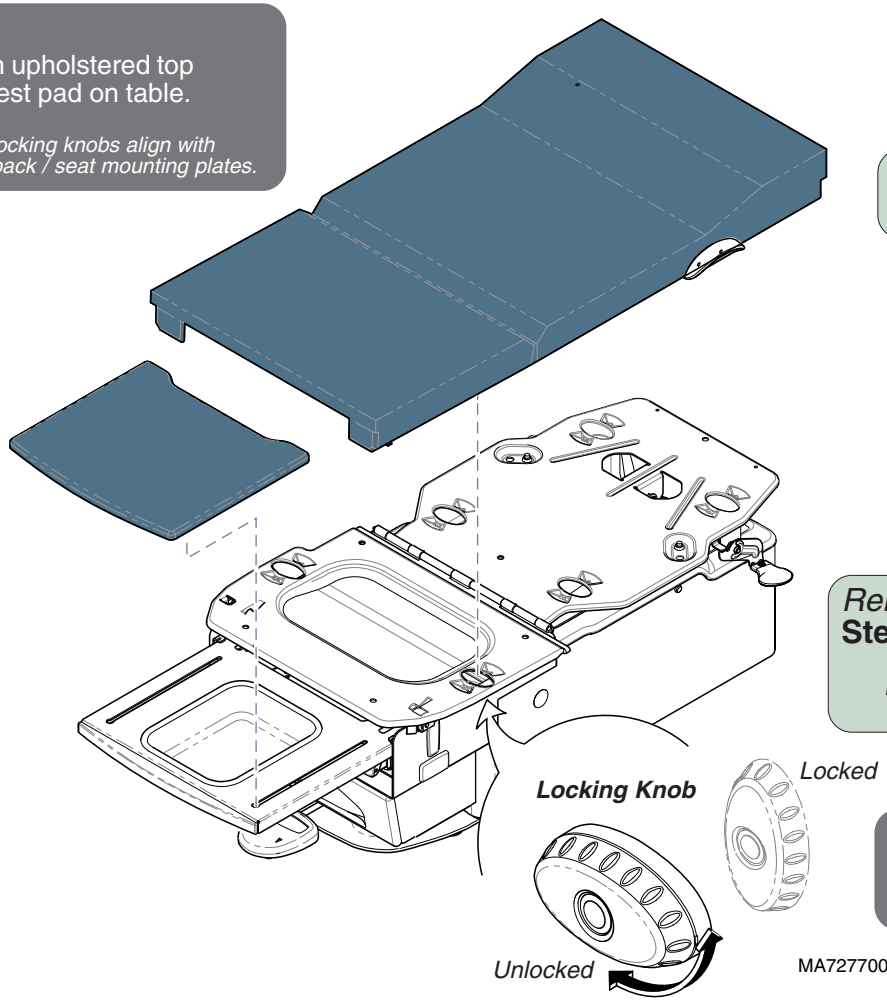
(Soft Touch Top shown)

Refer To: Go To Page:
Exploded Views / Part Numbers:
Upholstery - Ritter :
Soft Touch E-6.1
Seamless E-7.1

Installation
Step 1: Position upholstered top & footrest pad on table.

Note: *Be sure locking knobs align with holes in back / seat mounting plates.*

Removal
Step 2: Remove upholstered top & footrest pad.



Removal
Step 1: Rotate all locking knobs to unlocked position.

Note: *There are four locking knobs under back section, and two knobs under seat section.*

Installation
Step 2: Rotate locking knobs to locked position.

Models: *Serial Numbers:*	***222*** *(-015 thru -017)* *All*	***223*** *(-015 thru -016)* *All*

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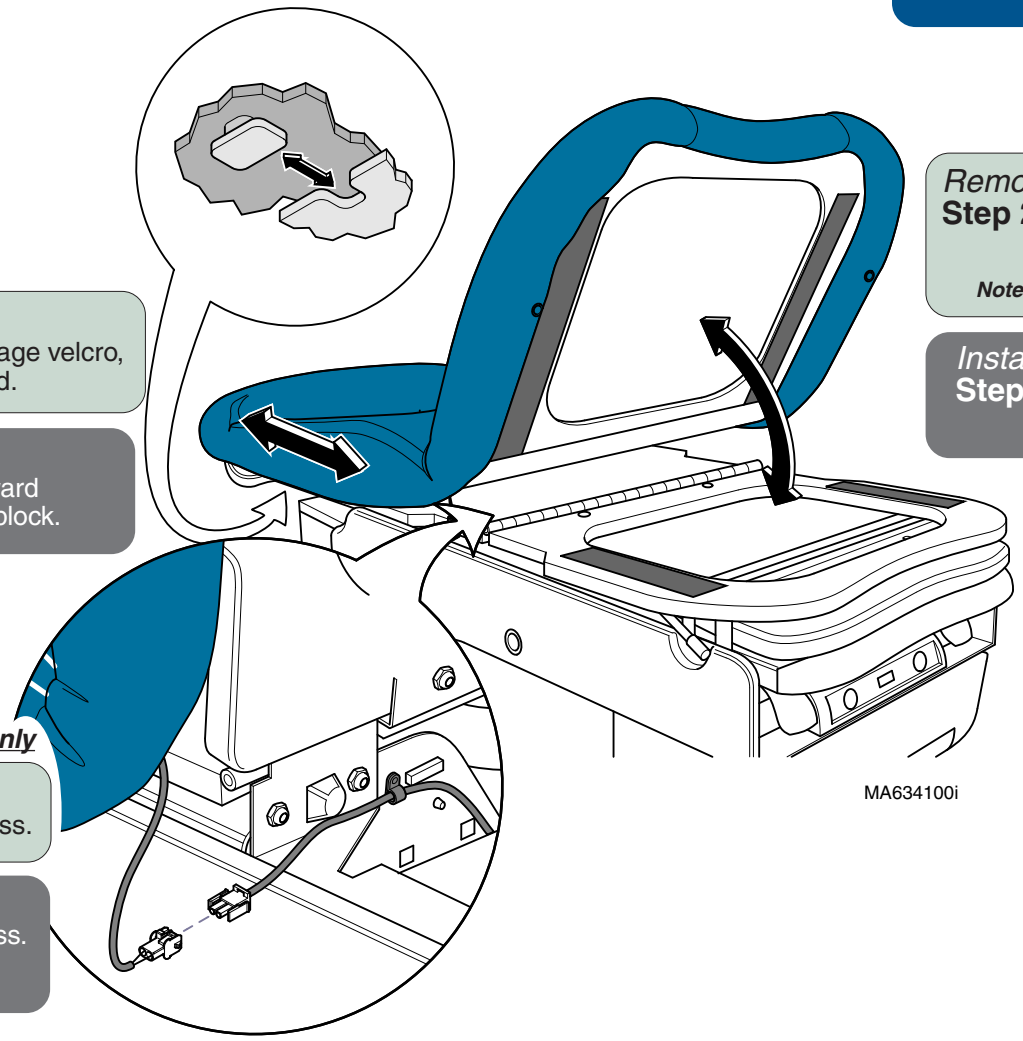
Component Testing & Repair

Upholstered Top (Midmark models)

Removal / Installation

Refer To: **Go To Page:**
Exploded Views / Part Numbers:
Upholstery - Midmark:
Premium E-8
Ultra-Premium E-9



Removal
Step 3: Lift back section to disengage velcro, then push toward head end.

Installation
Step 1: Slide back section toward foot end to engage T-block.

Models w/ upholstery heater only

Removal
Step 1: Disconnect wire harness.

Installation
Step 3: Connect wire harness.

Note: *Do not pinch wire.*

Removal
Step 2: Hold mounting frame in place, then lift seat section.

Note: *Upholstery is secured with velcro.*

Installation
Step 2: Lower seat section and press down firmly to engage velcro.

MA634100i

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Component Testing & Repair

Upholstered Top (Midmark models)

Removal / Installation

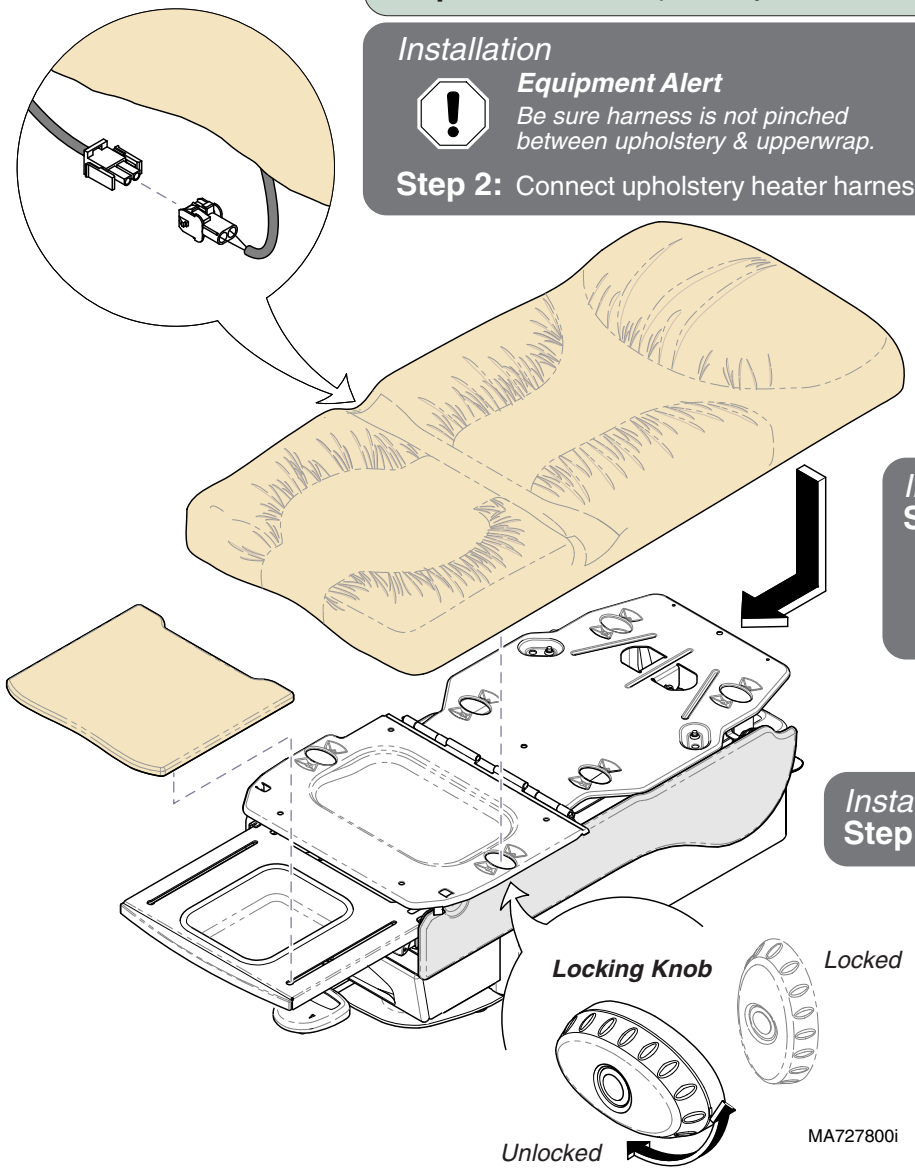
Step 2 applies only to models with optional upholstery heater.

Removal
Step 2: Disconnect upholstery heater harness.

Installation

Equipment Alert
Be sure harness is not pinched between upholstery & upperwrap.

Step 2: Connect upholstery heater harness.



Removal
Step 3: Remove upholstered top & footrest pad.

Note: *Slide upholstery up to remove from back support plate.*

Installation
Step 1: Position upholstered top & footrest pad on table.

Note: *Back support plate must slide under paper roll holder.*

Be sure locking knobs align with holes in back / seat mounting plates.

Installation
Step 3: Rotate locking knobs to locked position.

Removal
Step 1: Rotate all locking knobs to unlocked position.

Note: *There are four locking knobs under back section, and two knobs under seat section.*

Refer To: **Go To Page:**
Exploded Views / Part Numbers:
Upholstery - Midmark:
Premium E-8.1
Ultra-Premium E-9.1

Models: *Serial Numbers:*	***622*** *(-007 & -008)* *All*	***623*** *(-007 thru -011)* *All*

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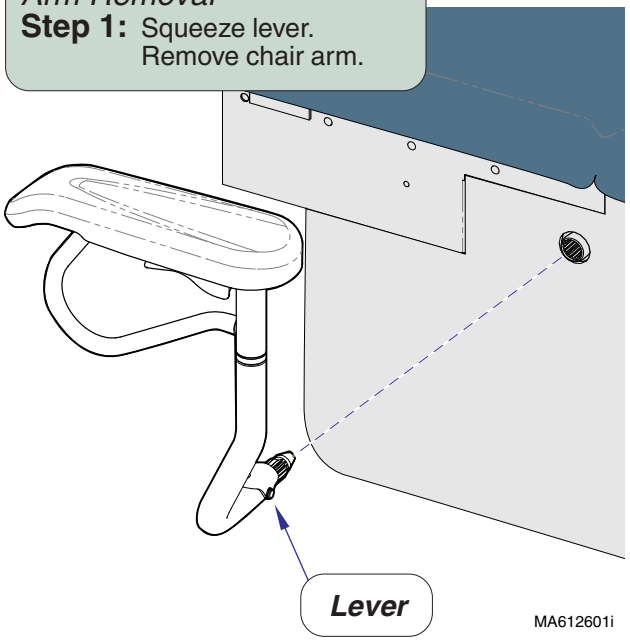
Component Testing & Repair

Chair Arms / Brace (optional)

Removal

Refer To: Go To Page:
Exploded Views / Part Numbers:
Refer to Midmark Medical Accessory Service & Parts Manual (004-0096-00)

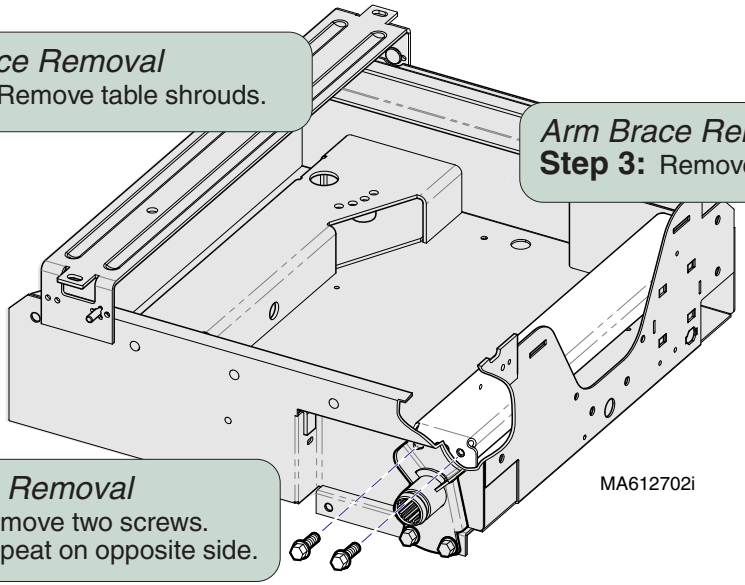
Arm Removal
Step 1: Squeeze lever.
Remove chair arm.



It may be necessary to remove the chair arm brace when performing certain procedures.

Arm Brace Removal
Step 1: Remove table shrouds.

Arm Brace Removal
Step 3: Remove brace.



Arm Brace Removal
Step 2: Remove two screws.
Repeat on opposite side.

Chair Arms

Models: ***All***
Serial Numbers: *This is an optional accessory*

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Component Testing & Repair

Top Cover (Back Limit Switch Access)

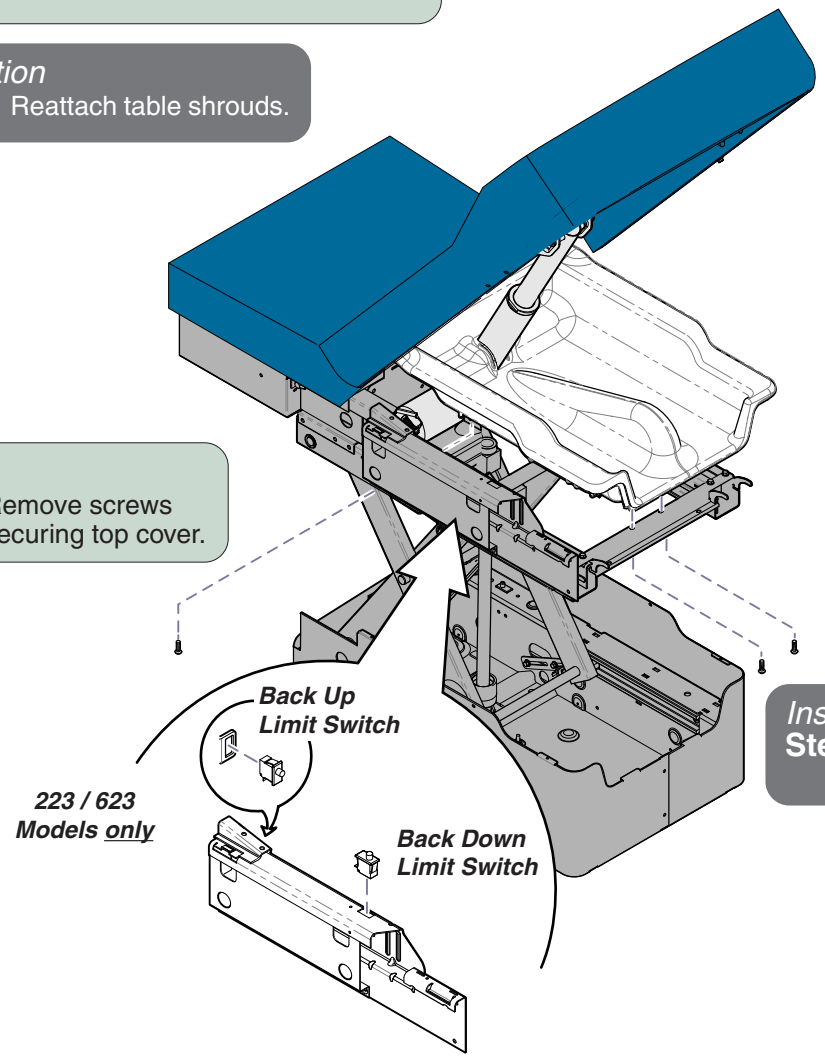
Removal / Installation

Refer To: Go To Page:
Table Shrouds C-2

Removal
Step 1: Lower table shrouds.
Refer to: Section C - Table Shrouds

Installation
Step 2: Reattach table shrouds.

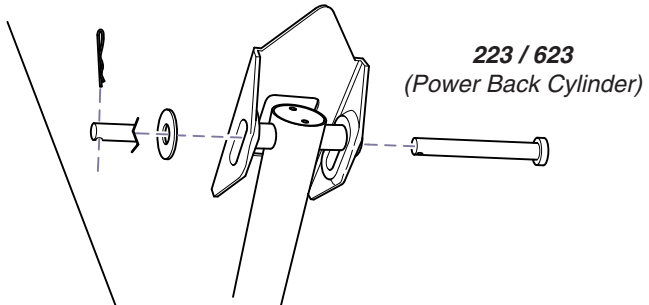
Removal
Step 2: Remove screws securing top cover.



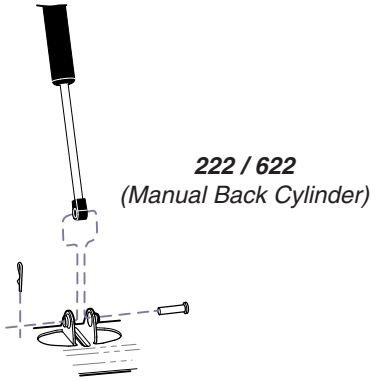
Installation
Step 2: Secure top cover with screws removed in Step 2.

Removal
Note
The back limit switches can be accessed without completely removing the top cover. But if removing the cover is necessary, perform Step 3.

Step 3: Partially serparate the back lift cylinder as shown. Slide top cover off of cylinder.



Installation
Step 1: Slide top cover over back cylinder. Reattach back cylinder.



MA736300i

Models: All
Serial Numbers: *All*

Top Cover

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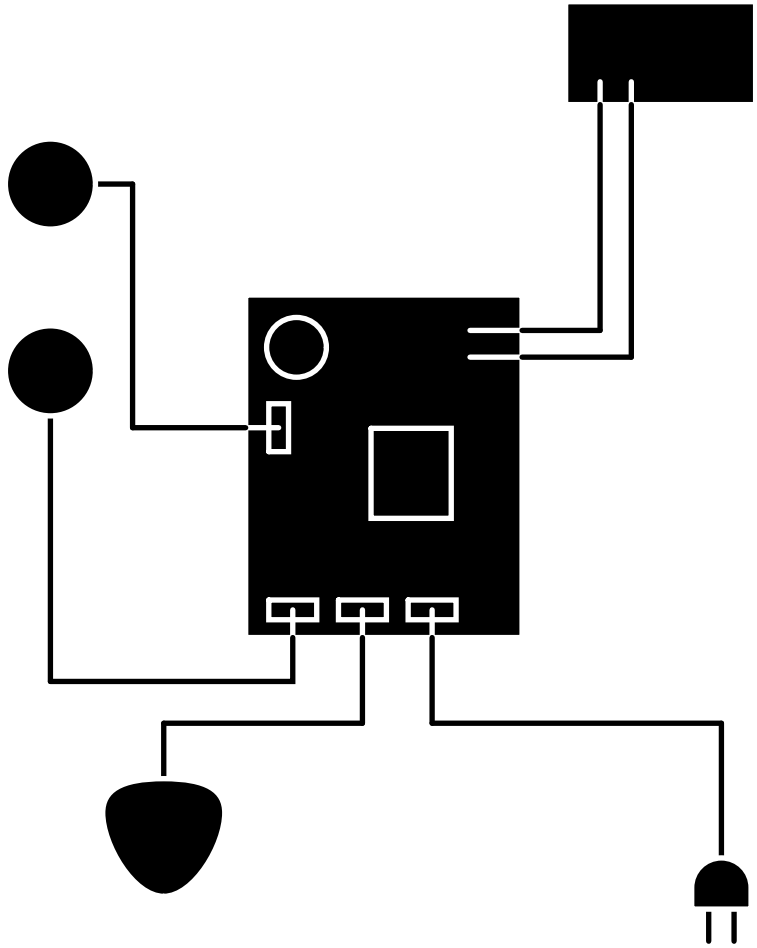
Section D

Wiring Diagrams



Model — Go To Page:

222:

(-001 & -005) D-2
(-002 & -006) D-3
(-003 & -007) D-4
(-004 & -008) D-5
(-009 & -017) D-6
(-010) D-7
(-011 & -013) D-8
(-012 & -014) D-9
(-015) D-10
(-016) D-11

223:

(-001 & -005) D-12
(-002 & -006) D-13
(-003 & -007) D-14
(-004 & -008) D-15
(-009) D-16
(-010) D-17
(-011 & -013) D-18
(-012 & -014) D-19
(-015) D-20
(-016) D-21

622:

(-001) D-3
(-002) D-22
(-003) D-6
(-004) D-23
(-005) D-8
(-006) D-24
(-007) D-10
(-008) D-25

623:

(-001) D-26
(-002) D-27
(-003 & -009) D-28
(-004) D-29
(-005) D-30
(-006) D-31
(-007) D-32
(-008) D-33
(-010) D-29*
(-011) D-34

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Wiring Diagrams

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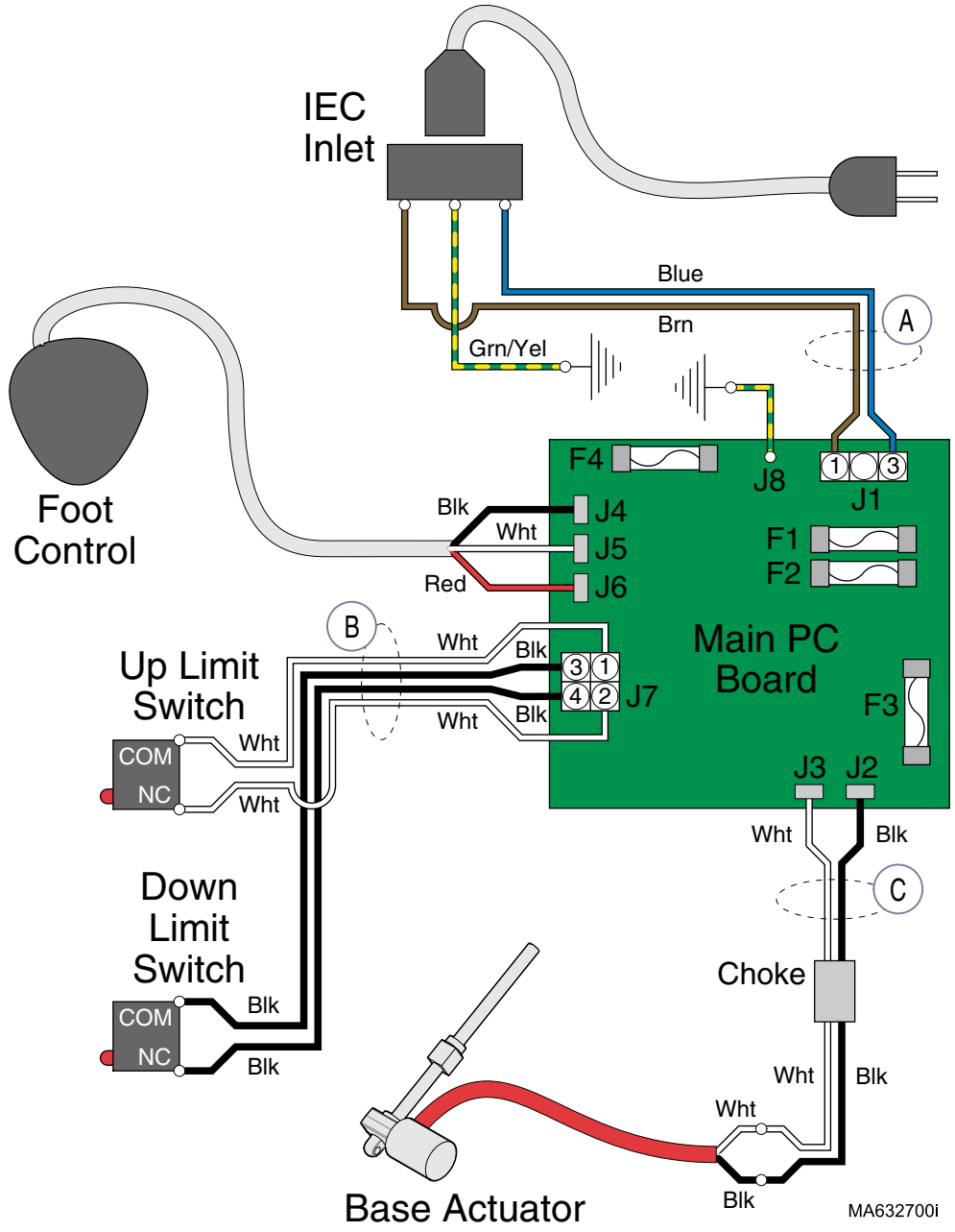

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*

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Wiring Diagrams

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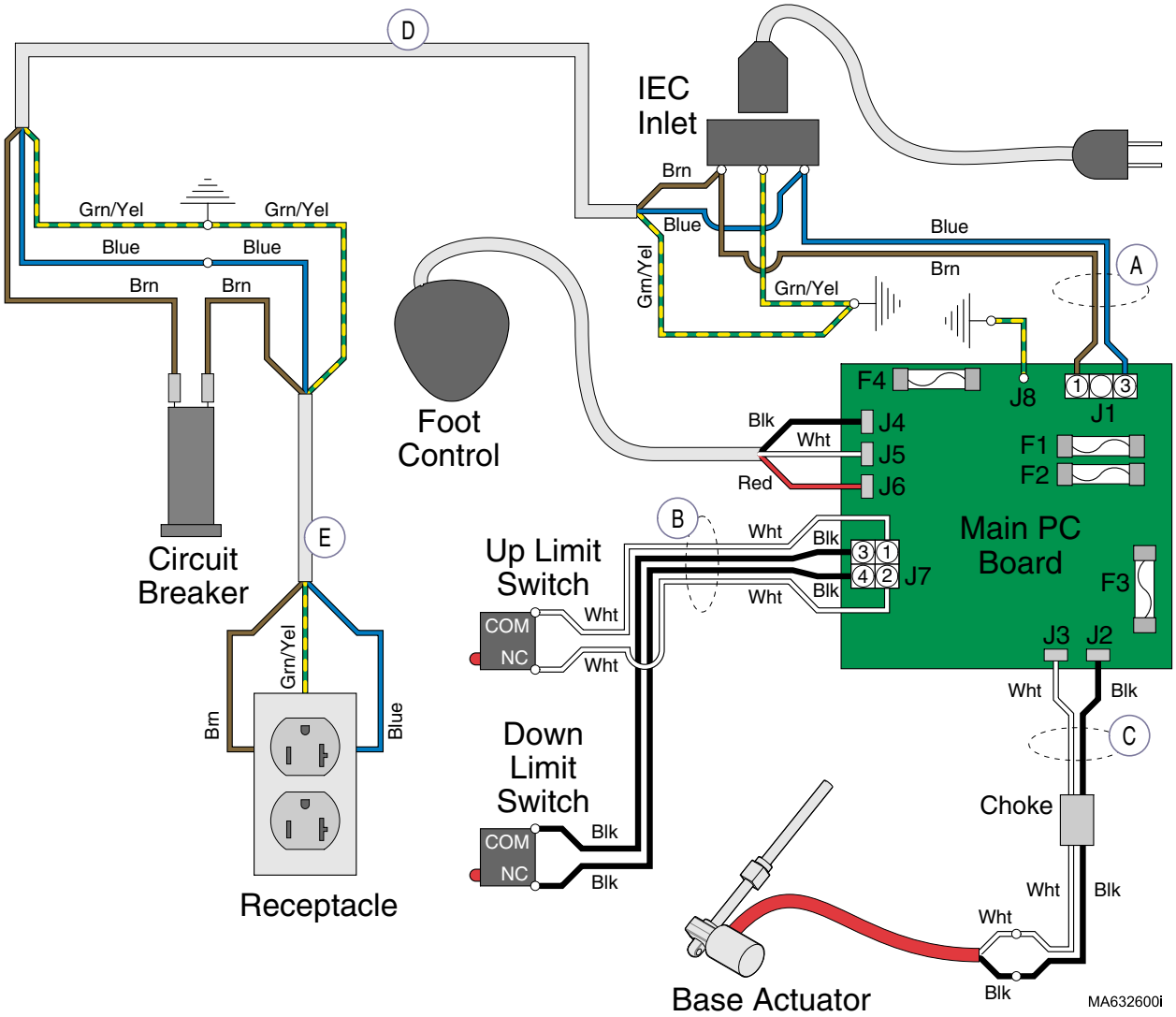

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Circuit Breaker	IEC Inlet	**015-1594-30**
E	Receptacle	Circuit Breaker	**015-1595-00**

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Wiring Diagrams

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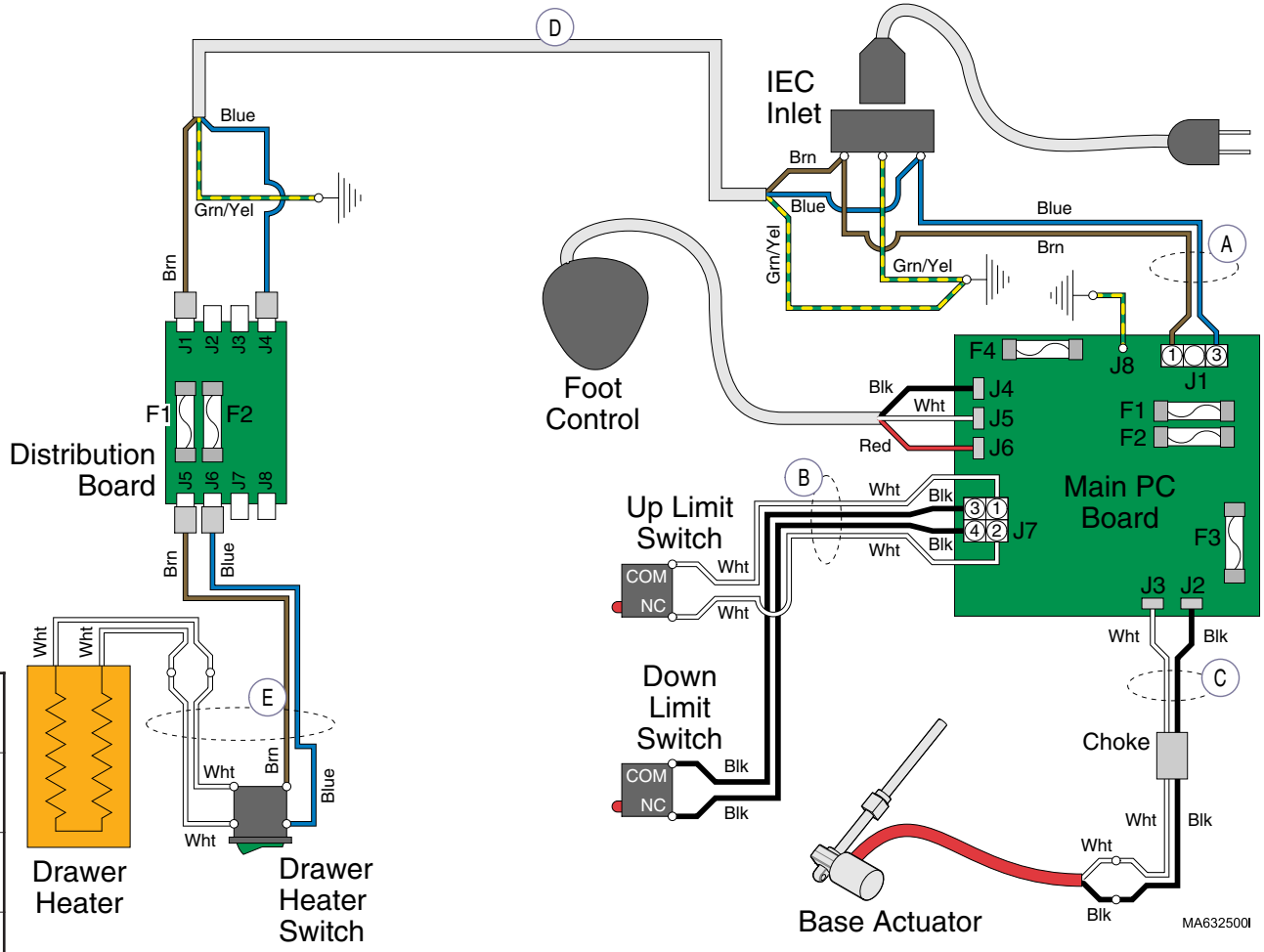

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Distribution Board	IEC Inlet	**015-1594-00**
E	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**

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Wiring Diagrams

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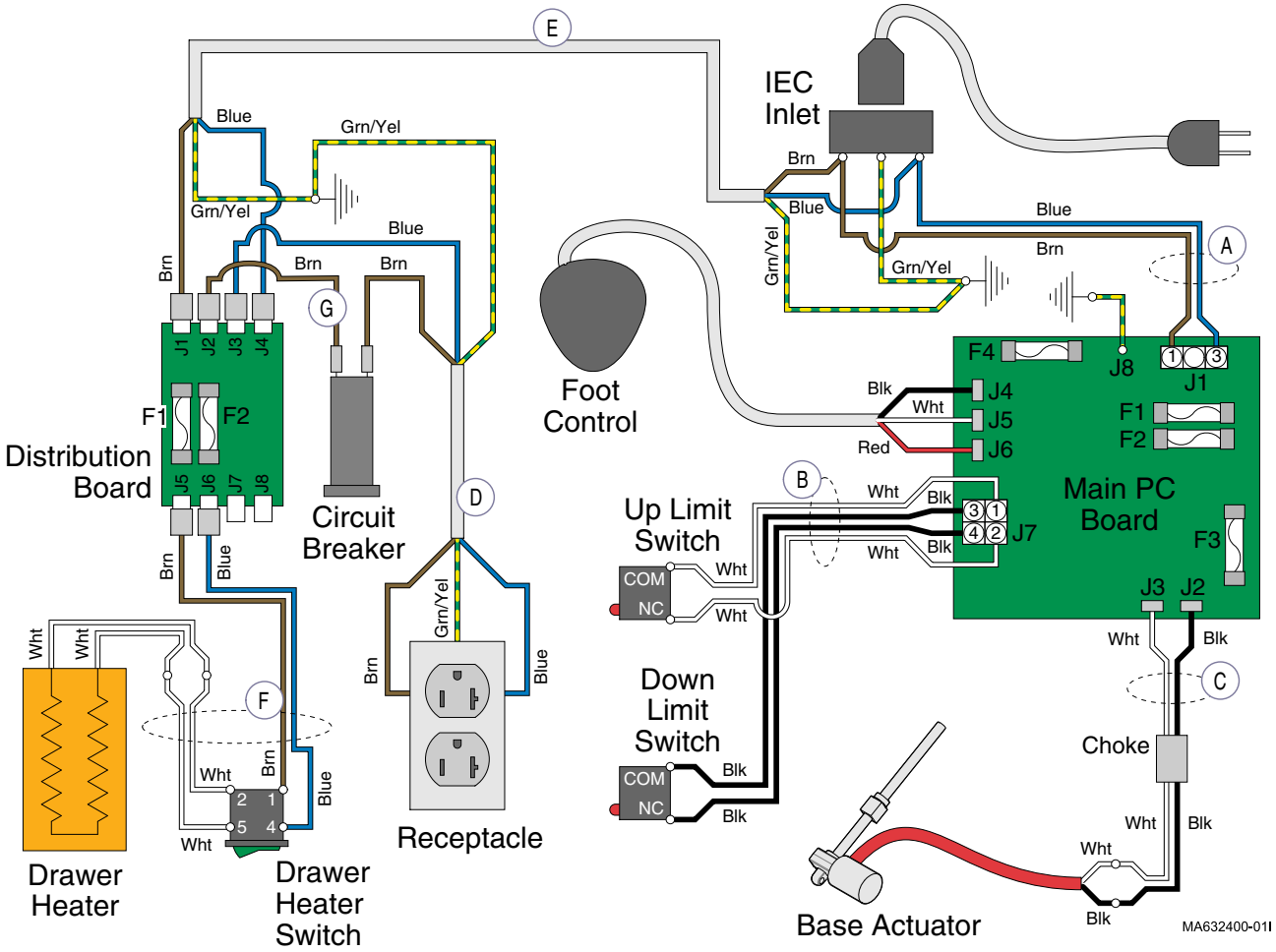

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Receptacle	Circuit Breaker	**015-1595-00**
E	Distribution Board	IEC Inlet	**015-1594-00**
F	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
G	Circuit Breaker	Distribution Board	**015-0708-30**

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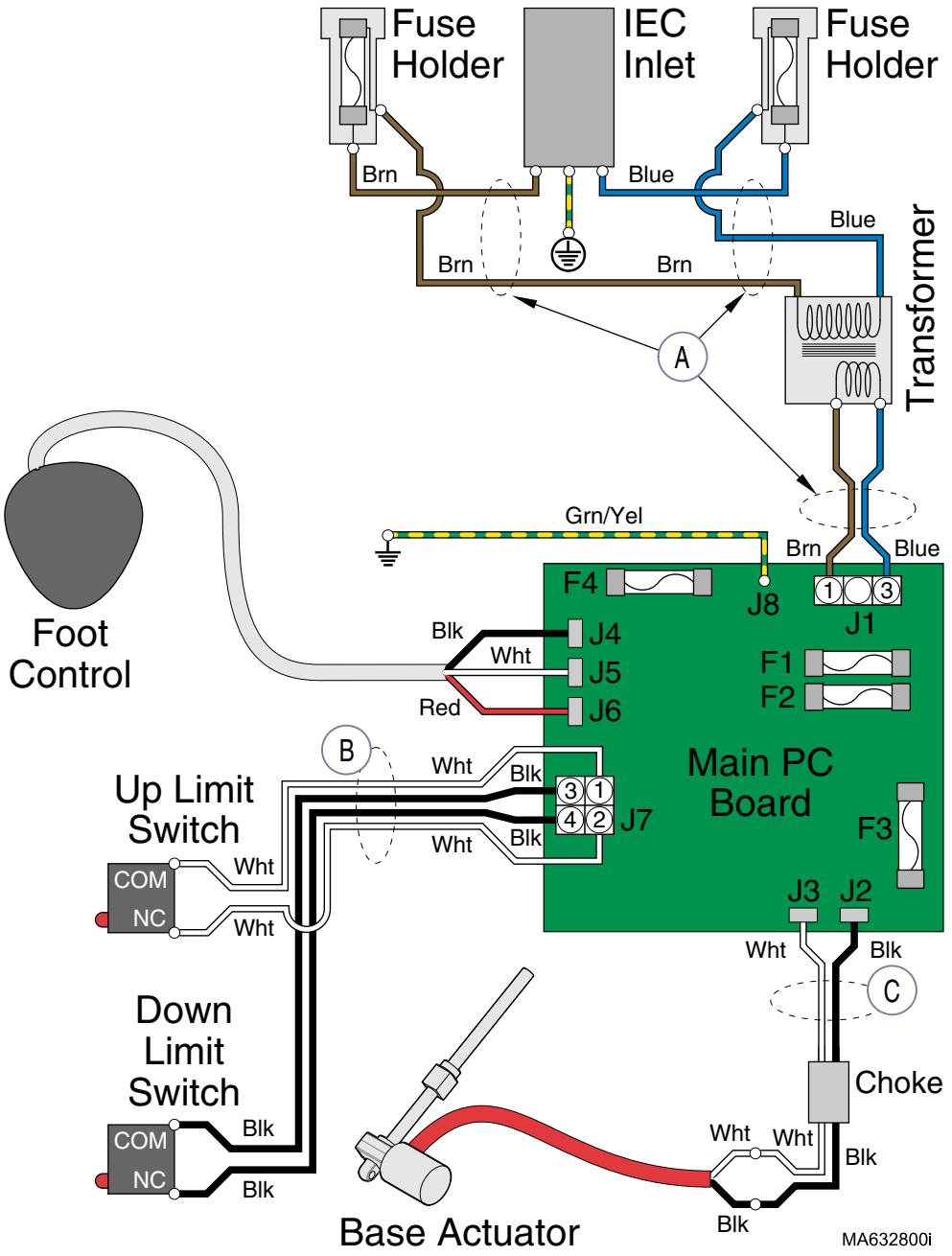

Wire Harness	From:	To:	Part Number
A	IEC Inlet / Fuse Holders / Transformer	Main PC Board	**015-1580-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1580-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*

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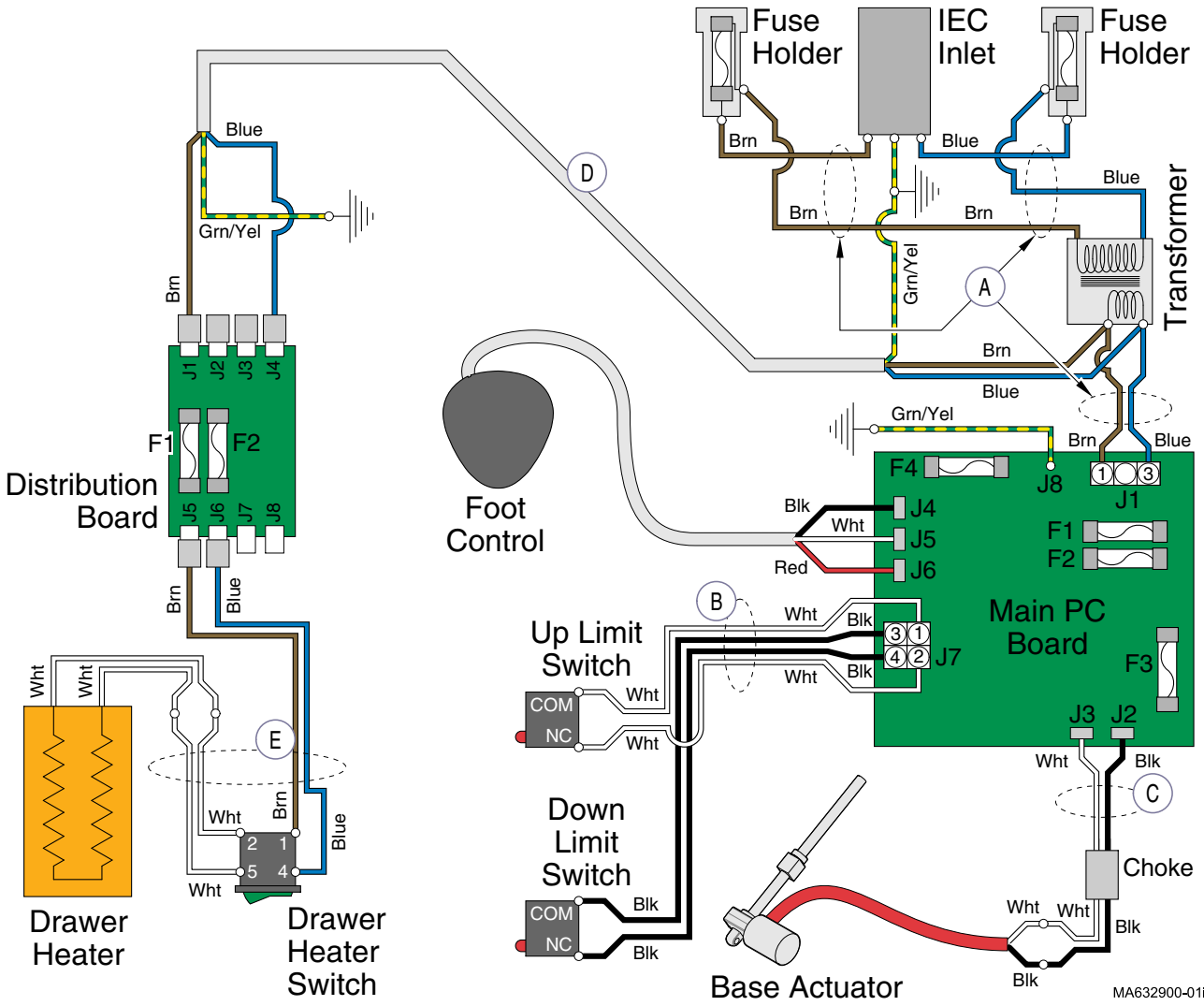

Wire Harness	From:	To:	Part Number
A	IEC Inlet / Fuse Holders / Transformer	Main PC Board	**015-1580-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1580-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Distribution Board	Transformer	**015-1594-00**
E	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**

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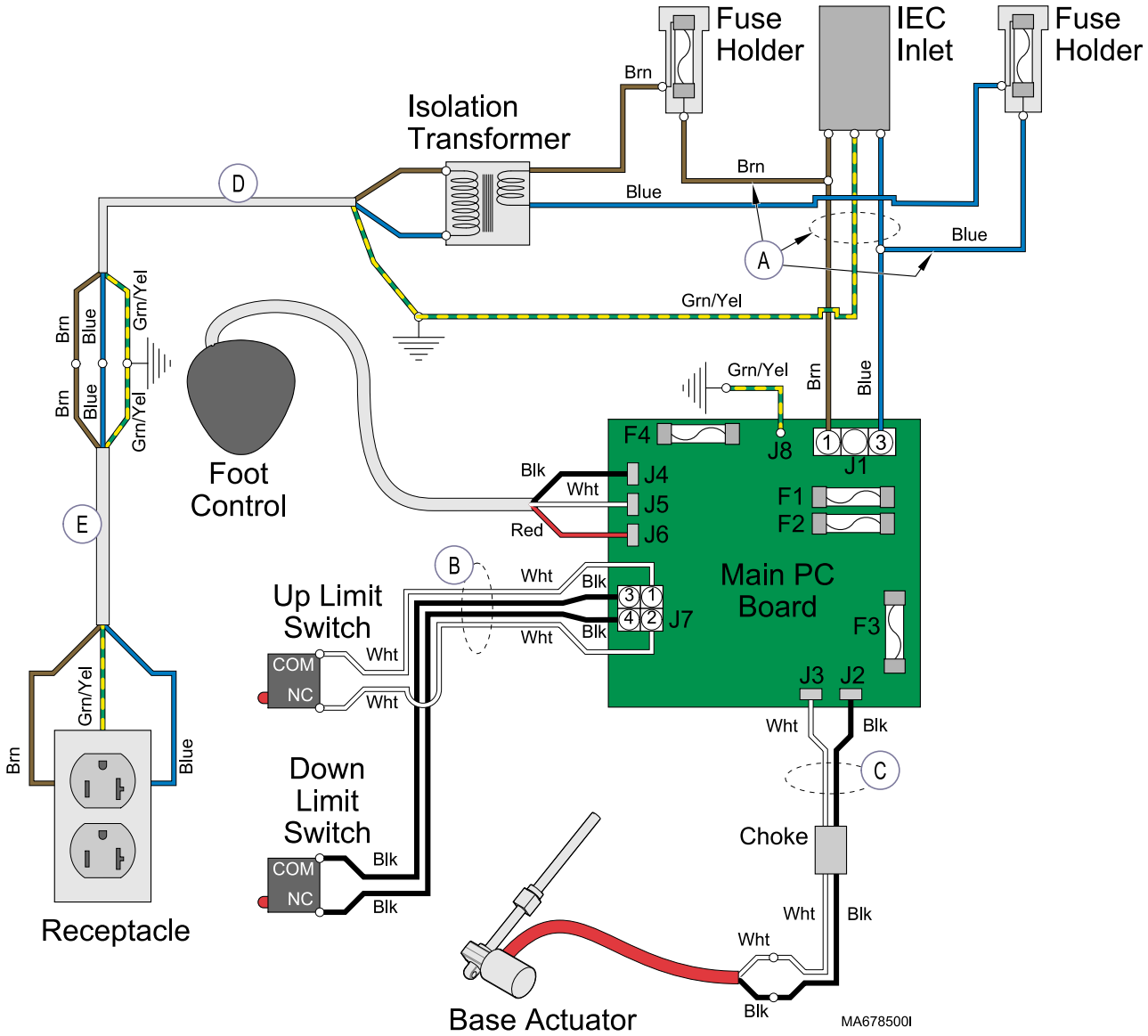

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1852-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1852-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Isolation Transformer	Item E	**015-1845-00**
E	Receptacle	Item D	**015-1595-00**

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Wiring Diagrams

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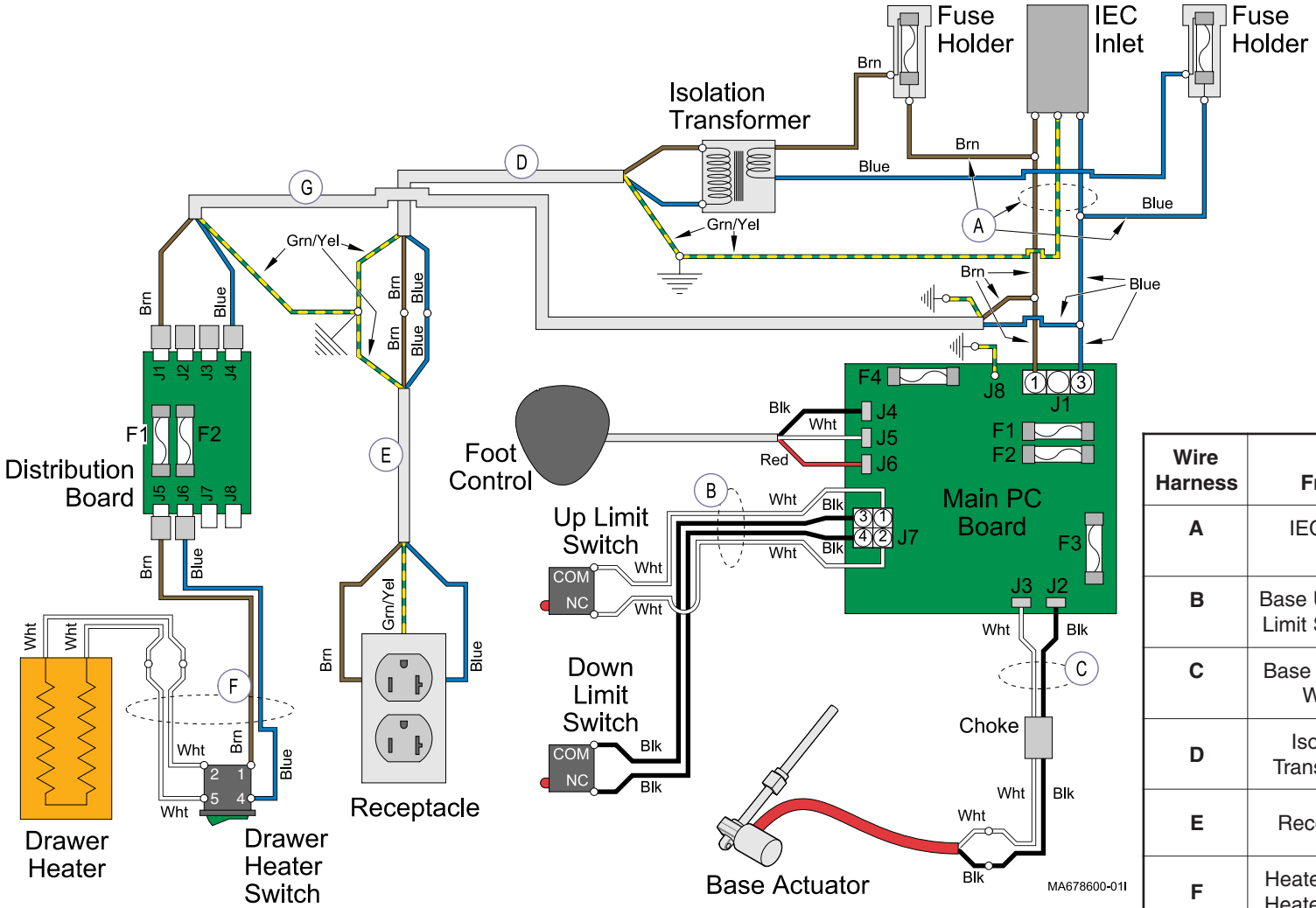

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1852-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1852-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Isolation Transformer	Item E	**015-1845-00**
E	Receptacle	Item D	**015-1595-00**
F	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
G	Distribution Board	Item A	**015-1594-00**

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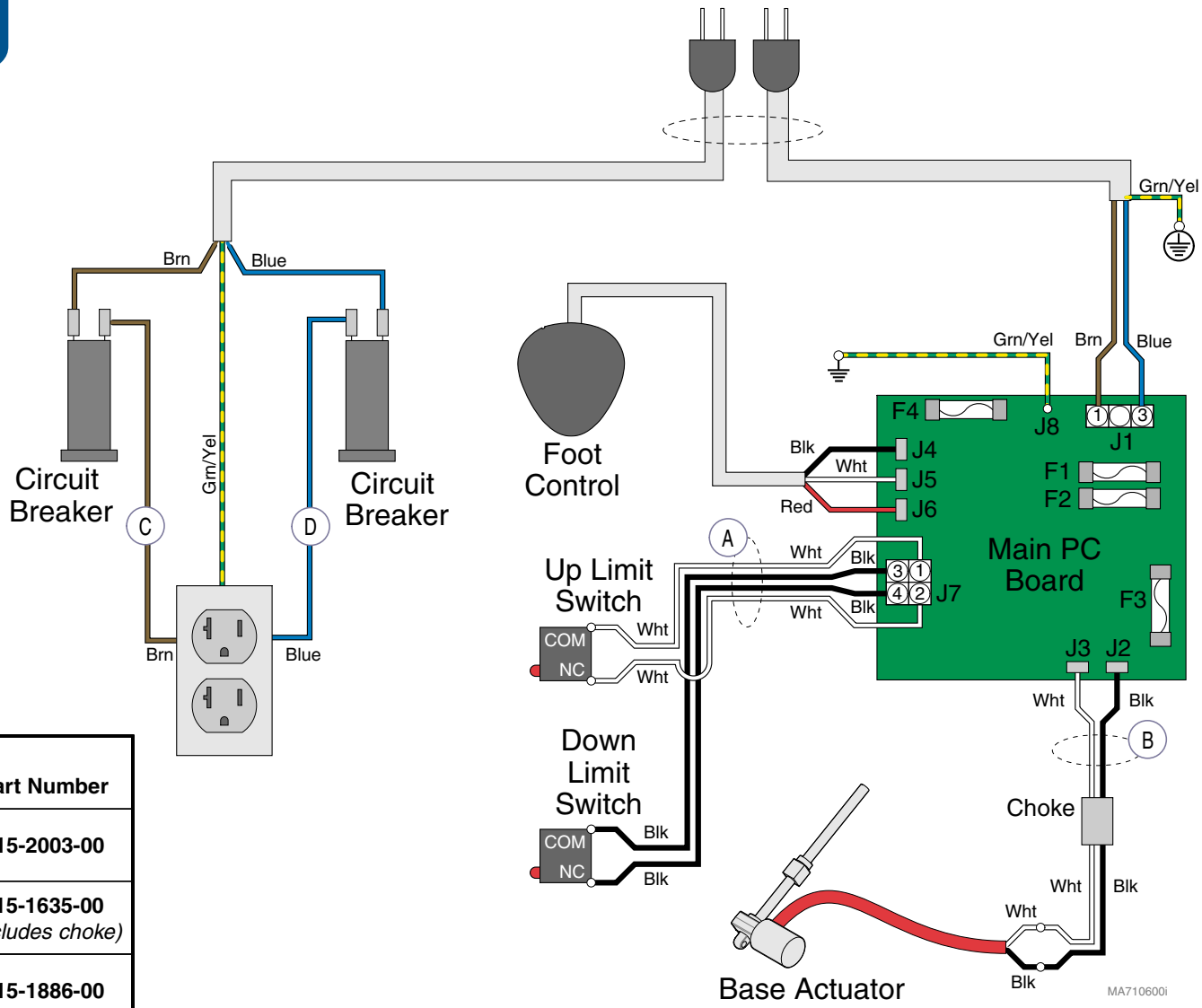

Wire Harness	From:	To:	Part Number
A	BaseUp / Down Limit Switches	Main PC Board	**015-2003-00**
B	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
C	Circuit Breaker *(brown wire)*	Table Receptacle	**015-1886-00**
D	Circuit Breaker *(blue wire)*	Table Receptacle	**015-1886-01**

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Wiring Diagrams

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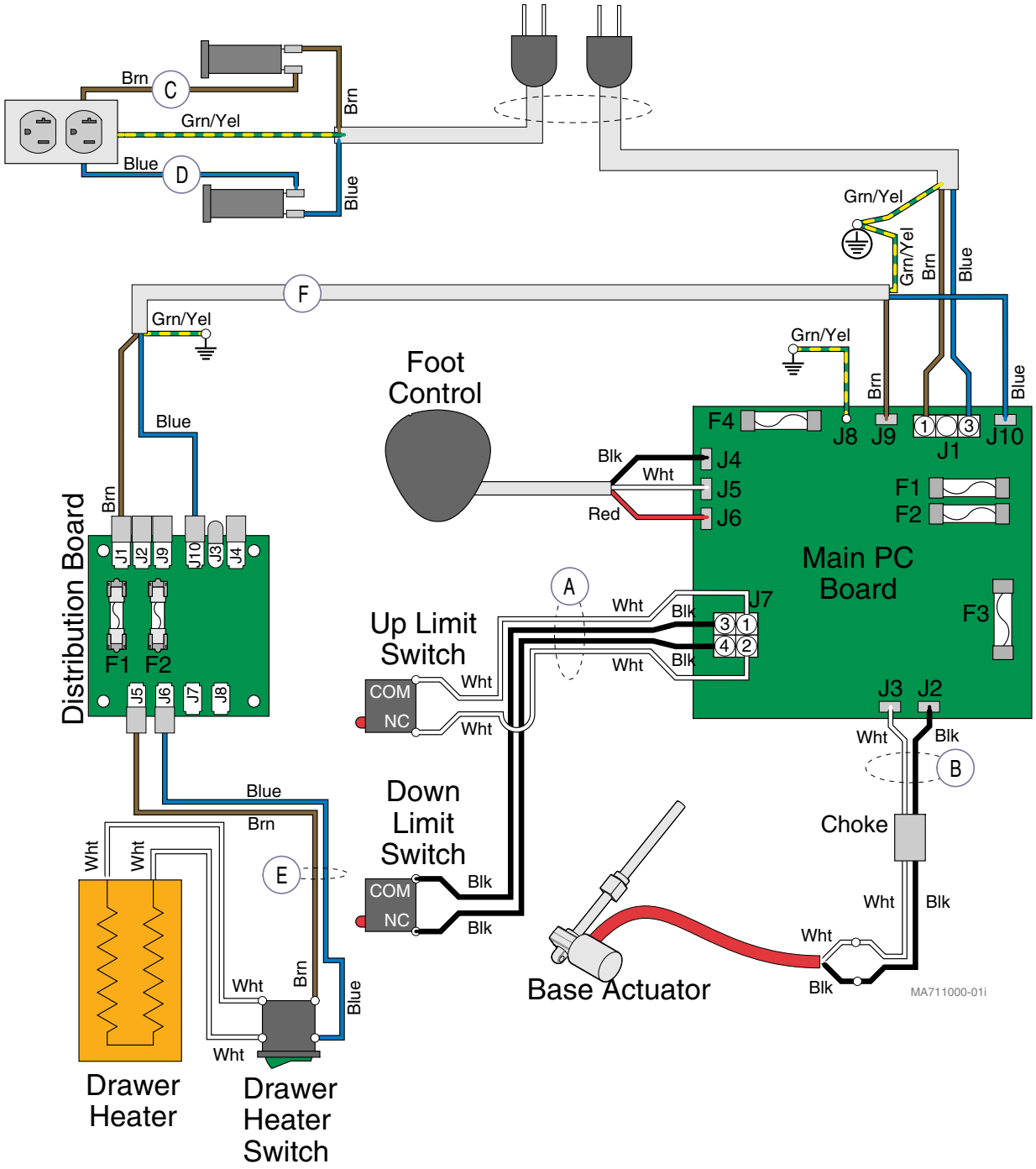

Wire Harness	From:	To:	Part Number
A	BaseUp / Down Limit Switches	Main PC Board	**015-2003-00**
B	Base Actuator Wires	Main PC Board	**015-1635-00** *(incl. choke)*
C	Circuit Breaker *(brown wire)*	Table Receptacle	**015-1886-00**
D	Circuit Breaker *(blue wire)*	Table Receptacle	**015-1886-01**
E	Heater Switch with Harness	Distribution Board	**015-3326-00**
F	Distribution Board	Main PC Board	**015-2005-00**

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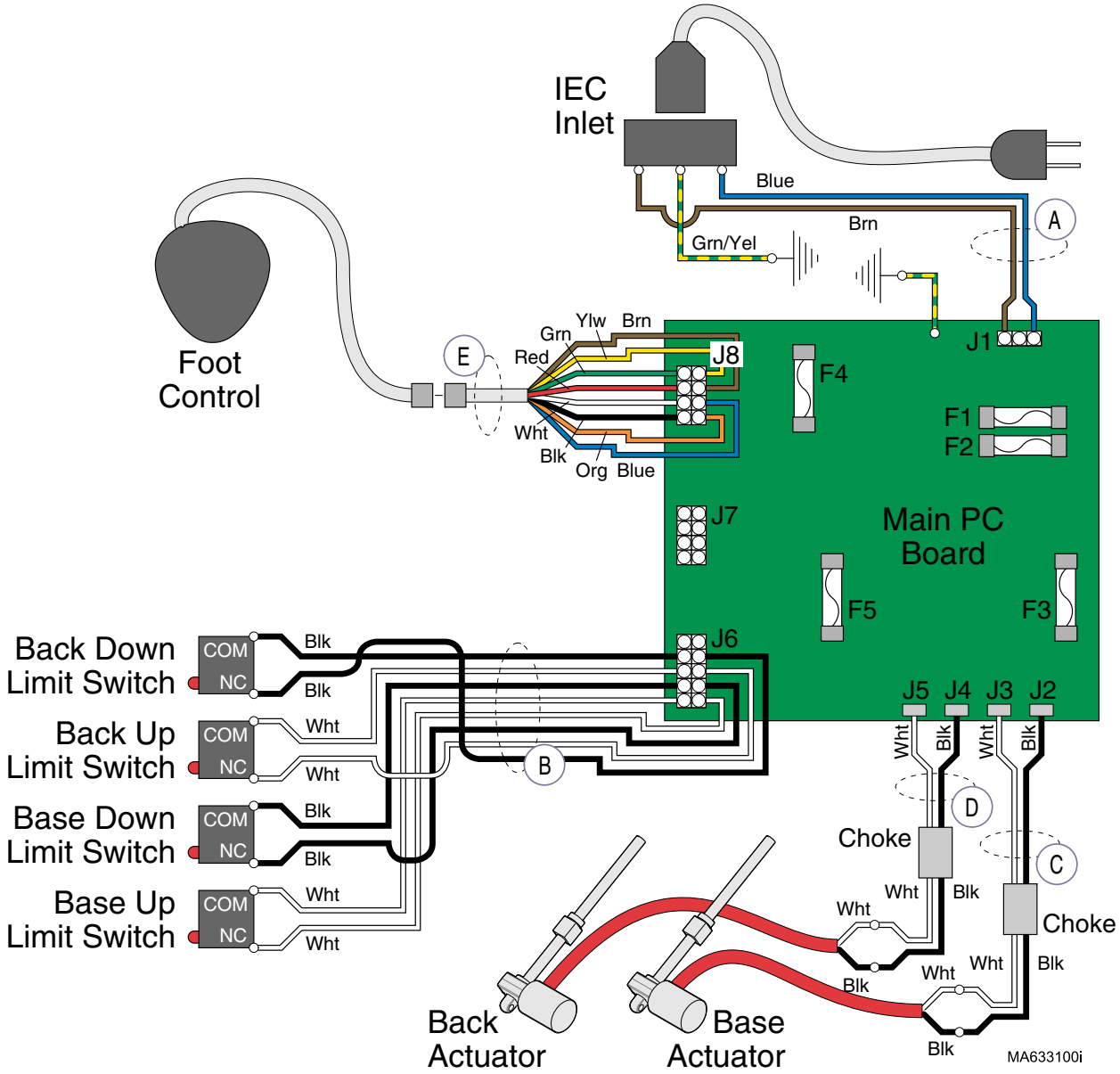

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**

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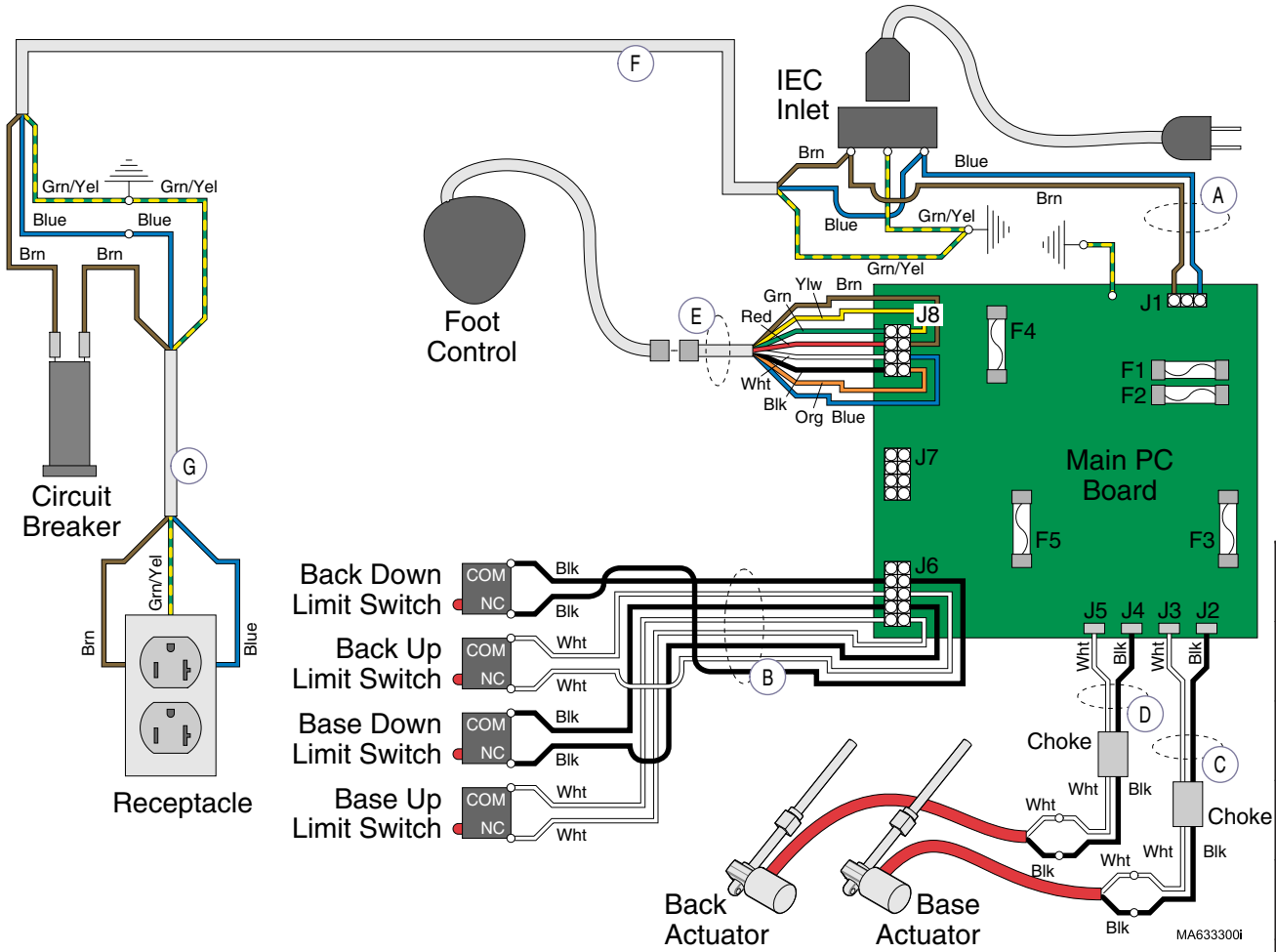

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Circuit Breaker	IEC Inlet	**015-1594-30**
G	Receptacle	Circuit Breaker	**015-1595-00**

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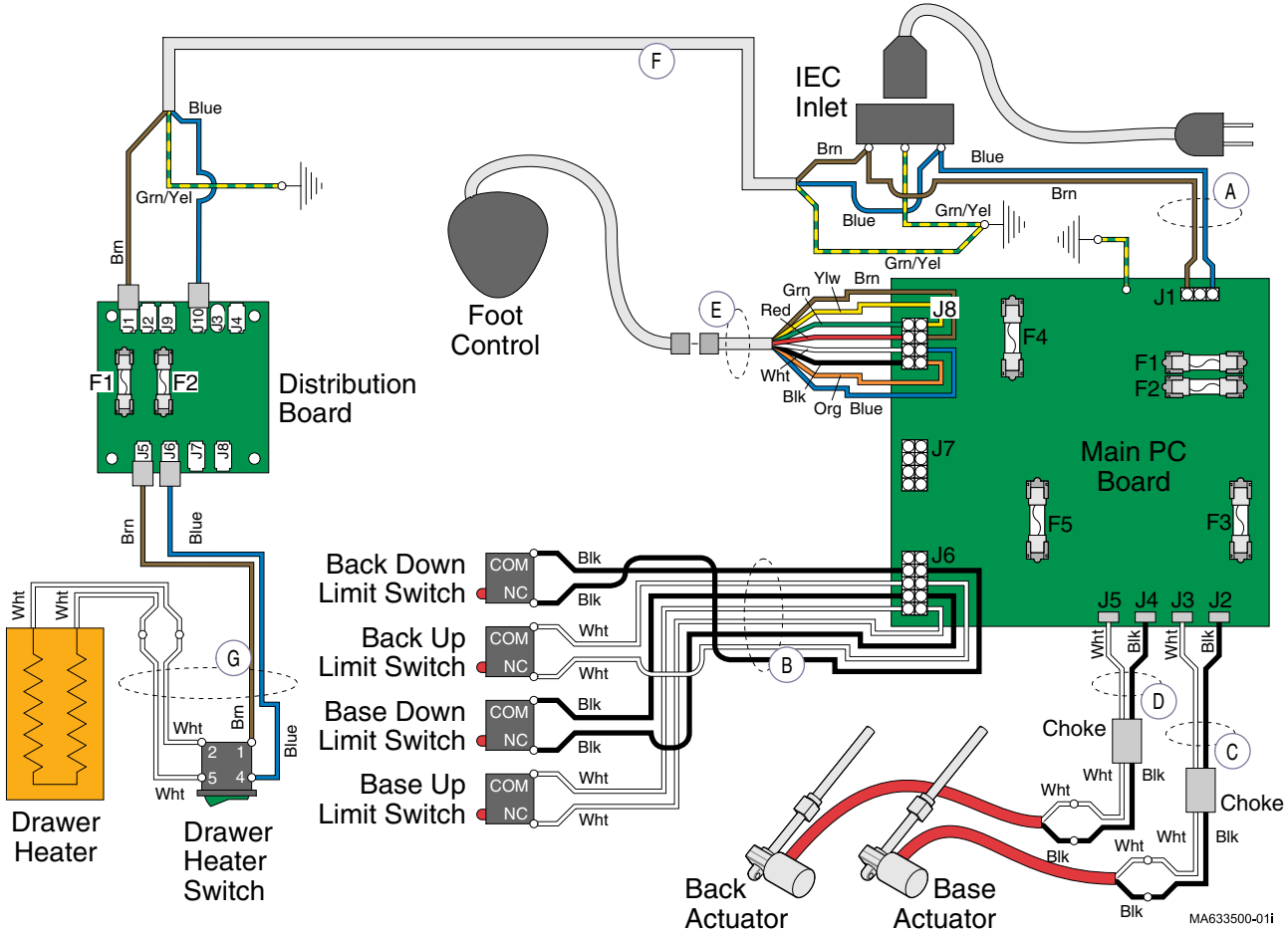
Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	IEC Inlet	**015-1594-00**
G	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**



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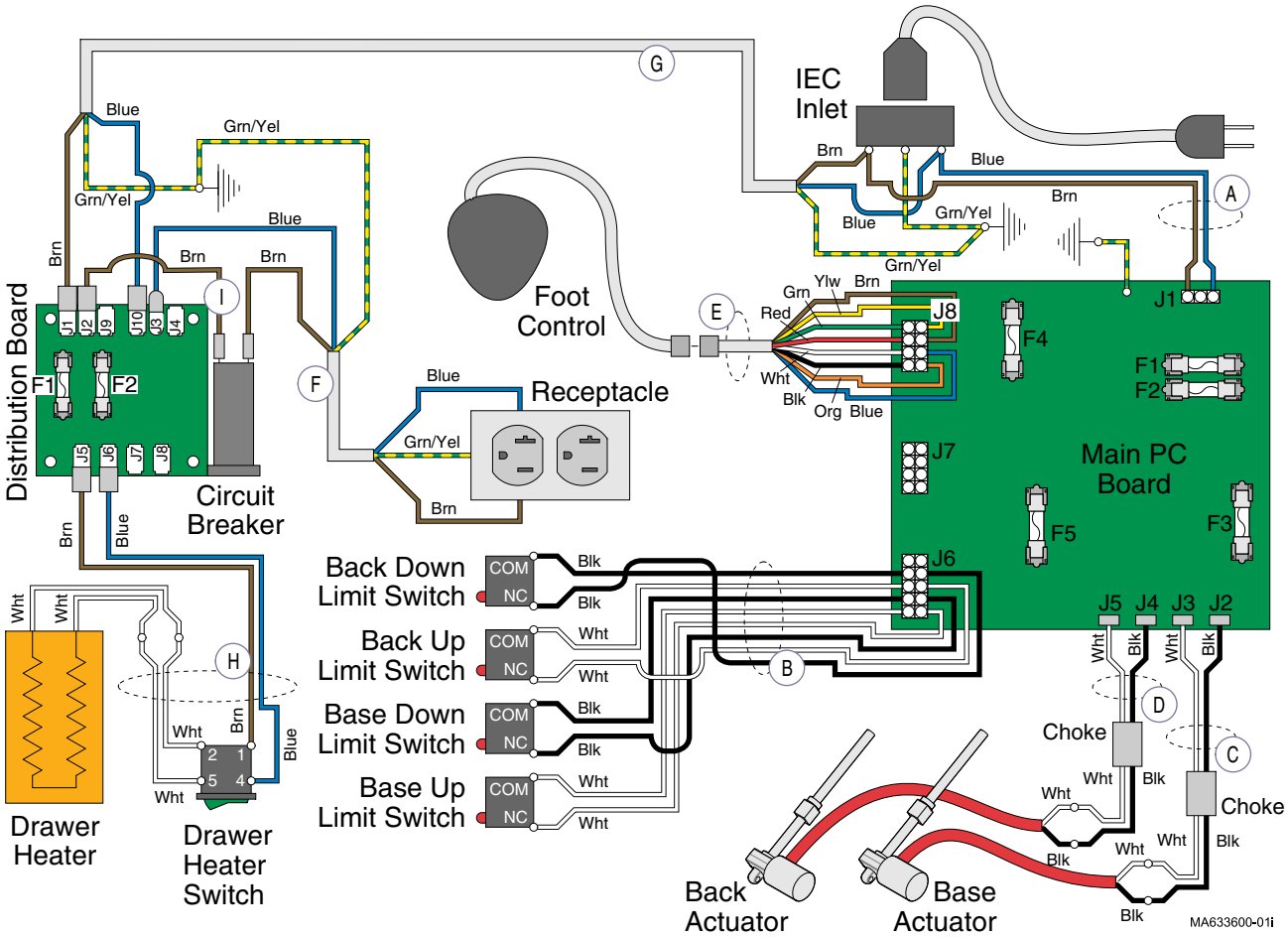

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Receptacle	Circuit Breaker	**015-1595-00**
G	Distribution Board	IEC Inlet	**015-1594-00**
H	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
I	Circuit Breaker	Distribution Board	**015-0708-30**

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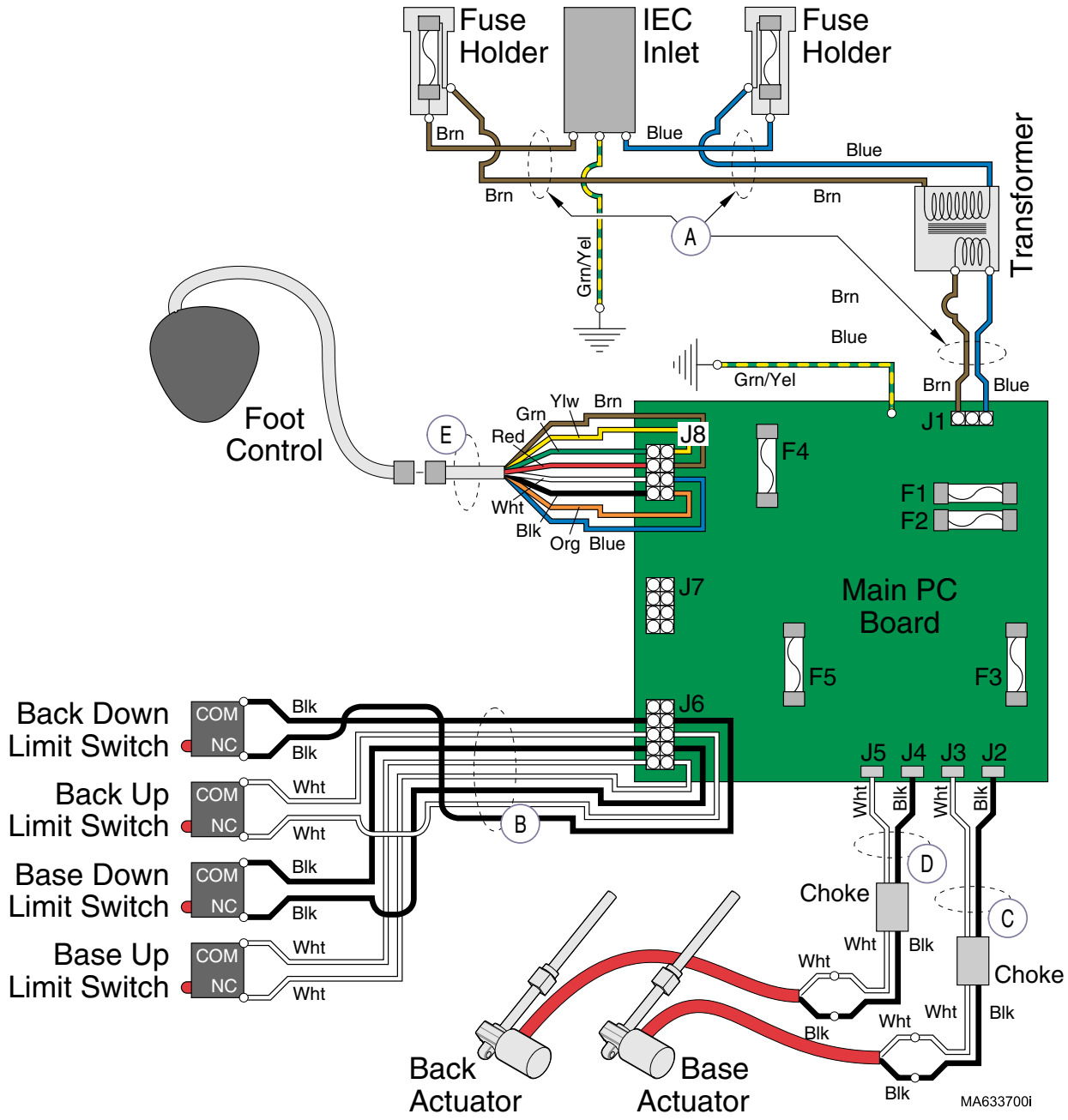

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1745-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1745-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**

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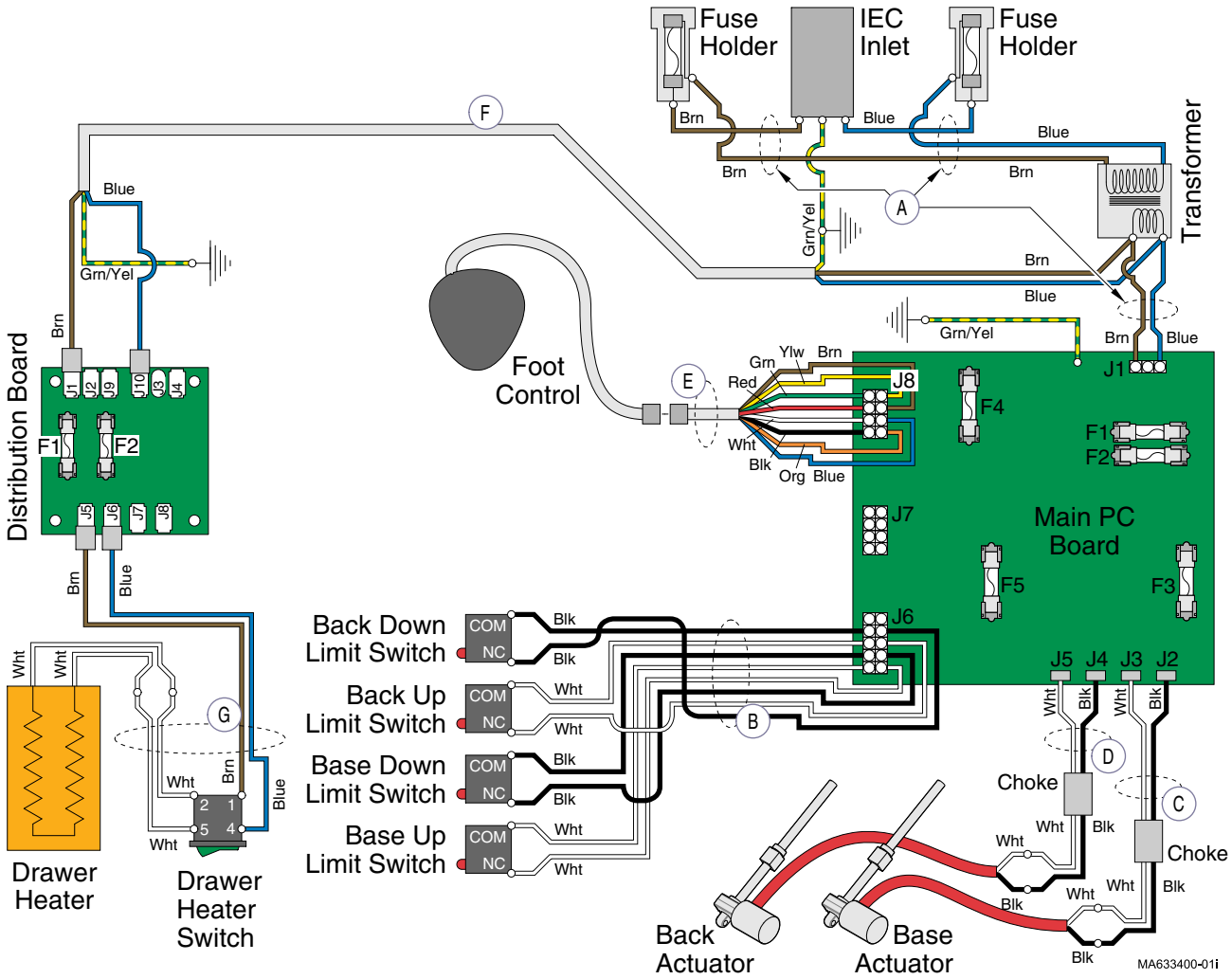

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	Transformer	**015-1594-00**
G	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**

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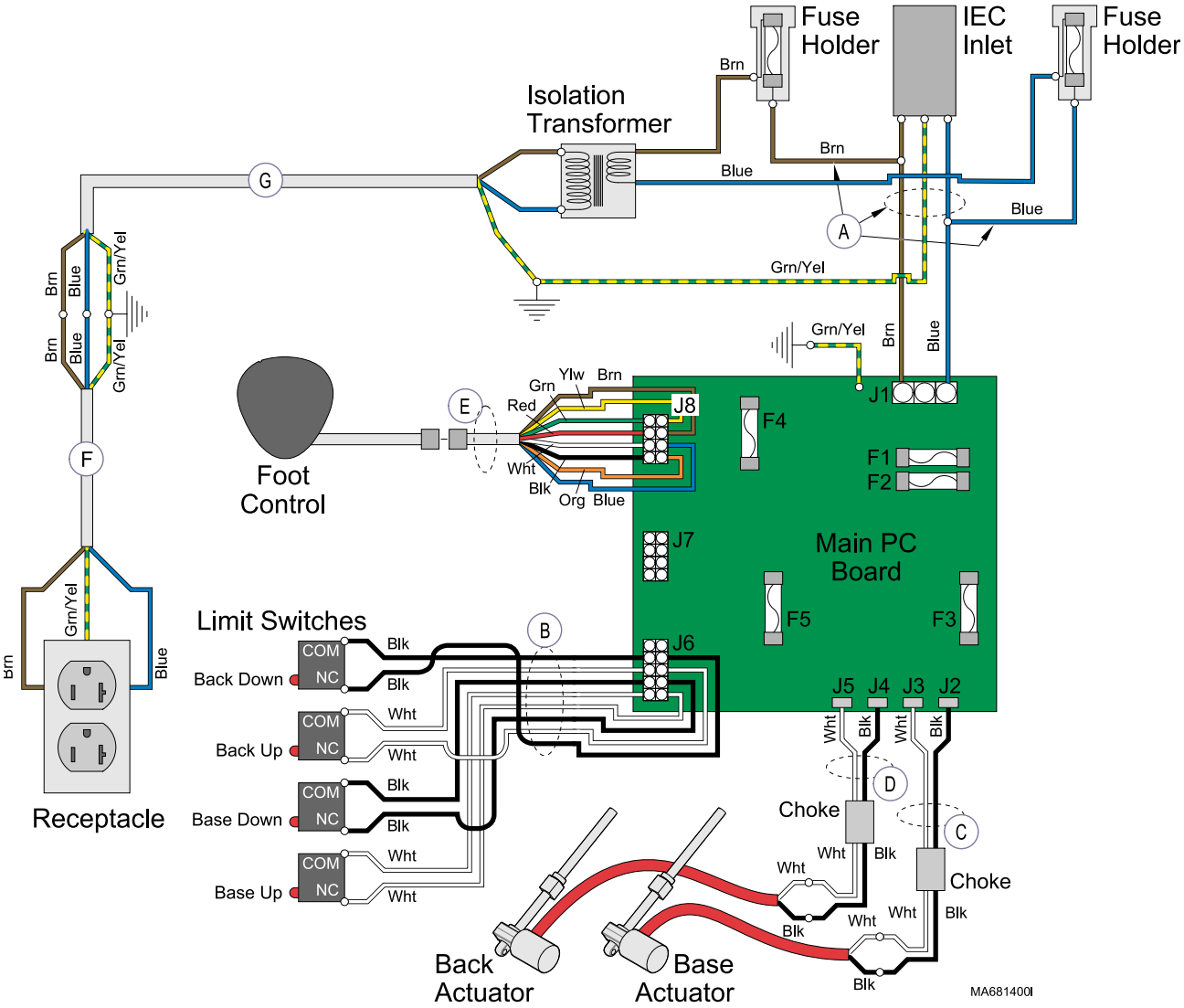
Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1853-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1853-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Receptacle	Item G	**015-1595-00**
G	Isolation Transformer	Item F	**015-1845-00**



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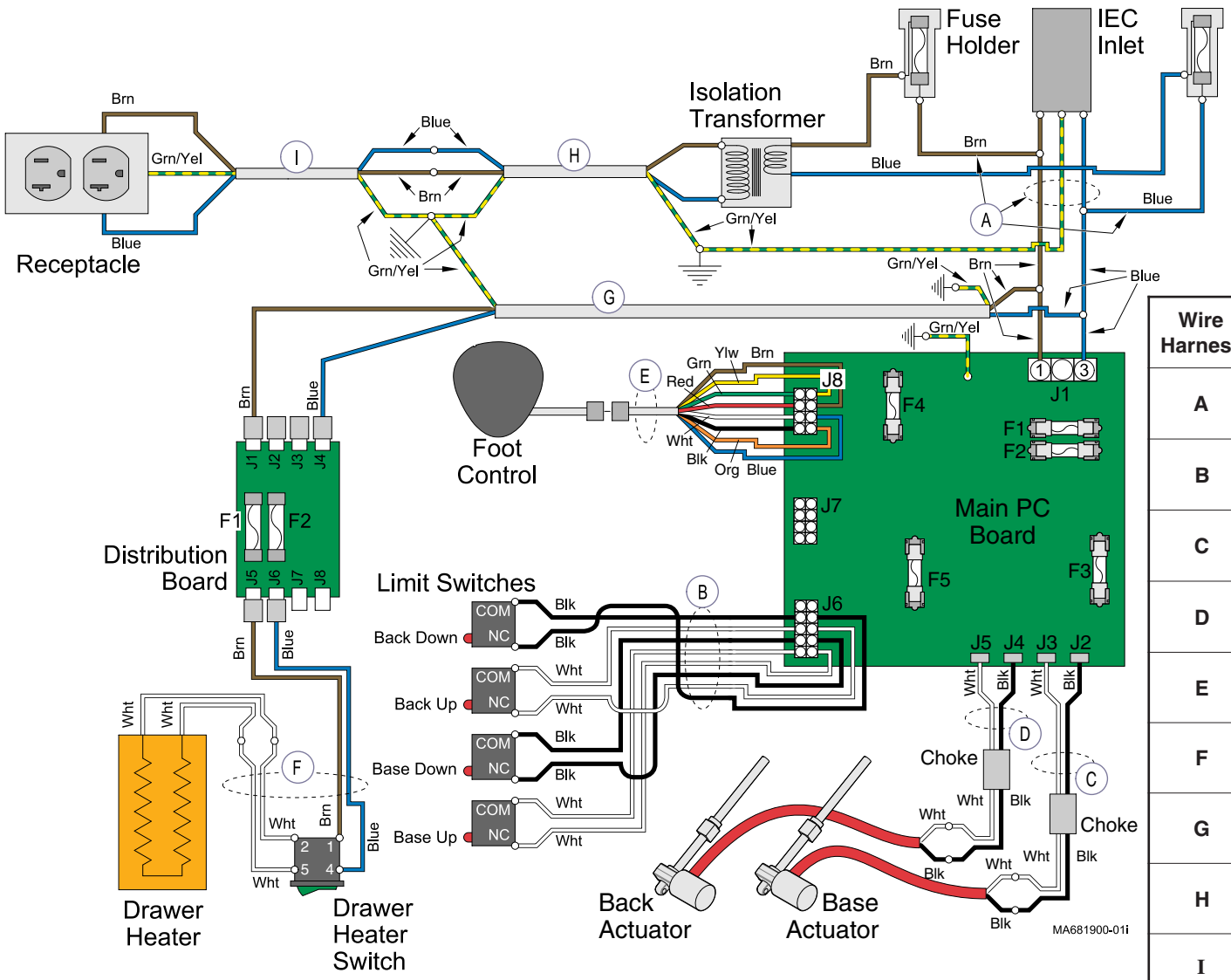

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1853-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1853-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Drawer Heater / Heater Switch	Distribution Board	**015-1629-00**
G	Distribution Board	Item A	**015-1594-00**
H	Isolation Transformer	Item I	**015-1845-00**
I	Receptacle	Item H	**015-1595-00**

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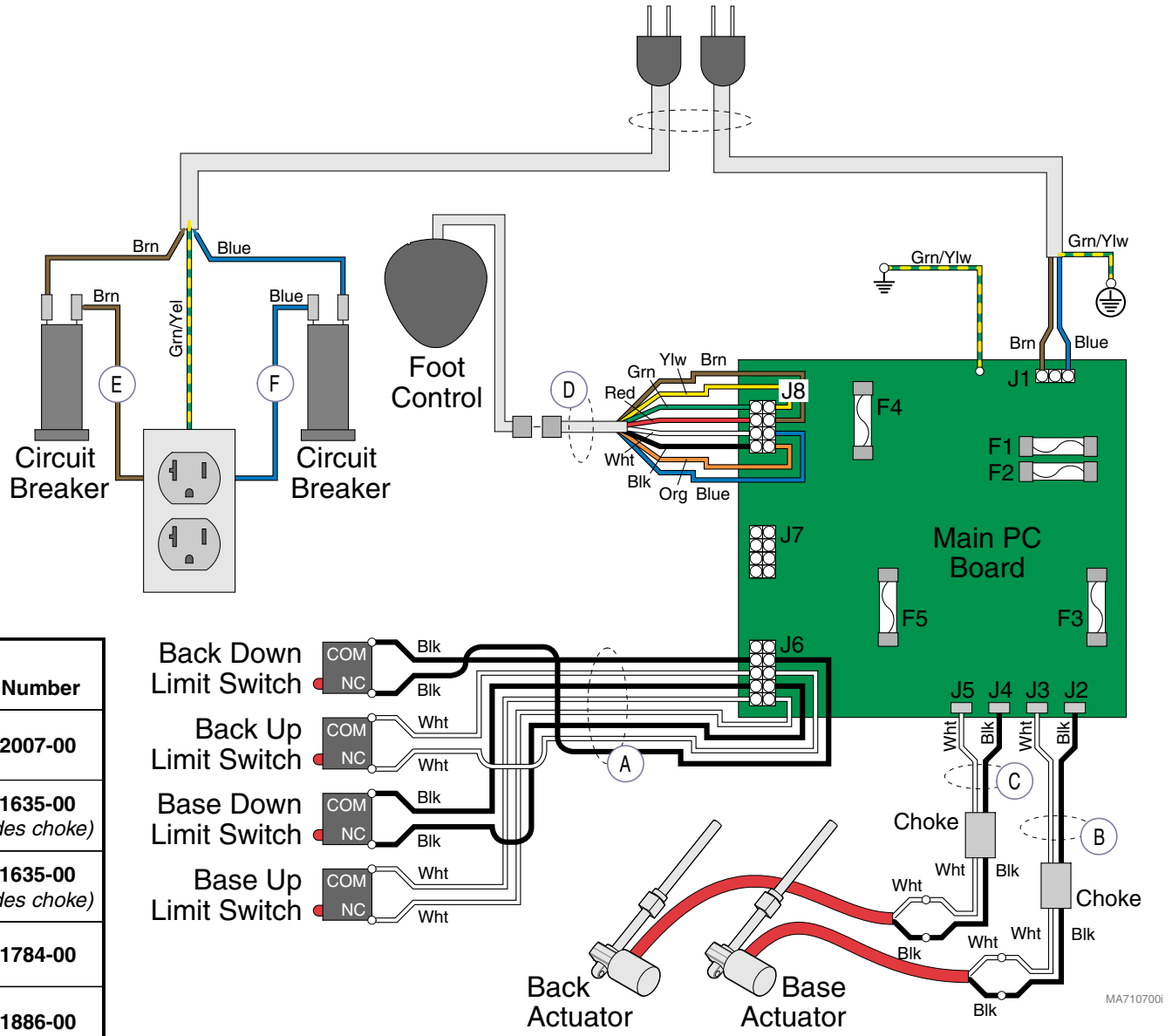

Wire Harness	From:	To:	Part Number
A	Base & Back Limit Switches	Main PC Board	**015-2007-00**
B	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
C	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Foot Control	Main PC Board	**015-1784-00**
E	Circuit Breaker *(brown wire)*	Table Receptacle	**015-1886-00**
F	Circuit Breaker *(blue wire)*	Table Receptacle	**015-1886-01**

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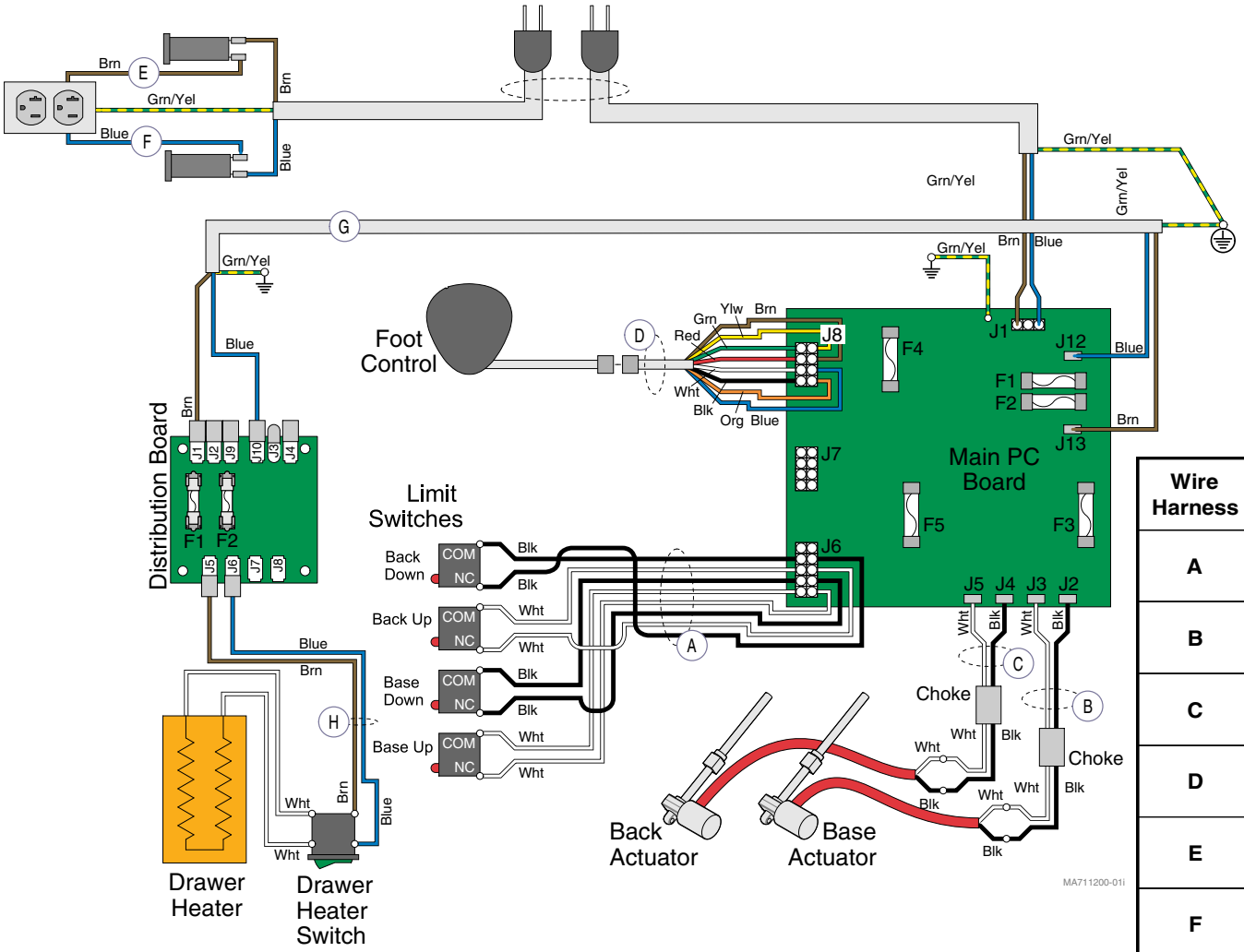

Wire Harness	From:	To:	Part Number
A	Base & Back Limit Switches	Main PC Board	**015-2007-00**
B	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
C	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Foot Control Inlet	Main PC Board	**015-1784-00**
E	Circuit Breaker *(brown wire)*	Table Receptacle	**015-1886-00**
F	Circuit Breaker *(blue wire)*	Table Receptacle	**015-1886-01**
G	Distribution Board	Main PC Board	**015-2005-00**
H	Drawer Heater Switch with Harness	Distribution Board	**015-3326-00**

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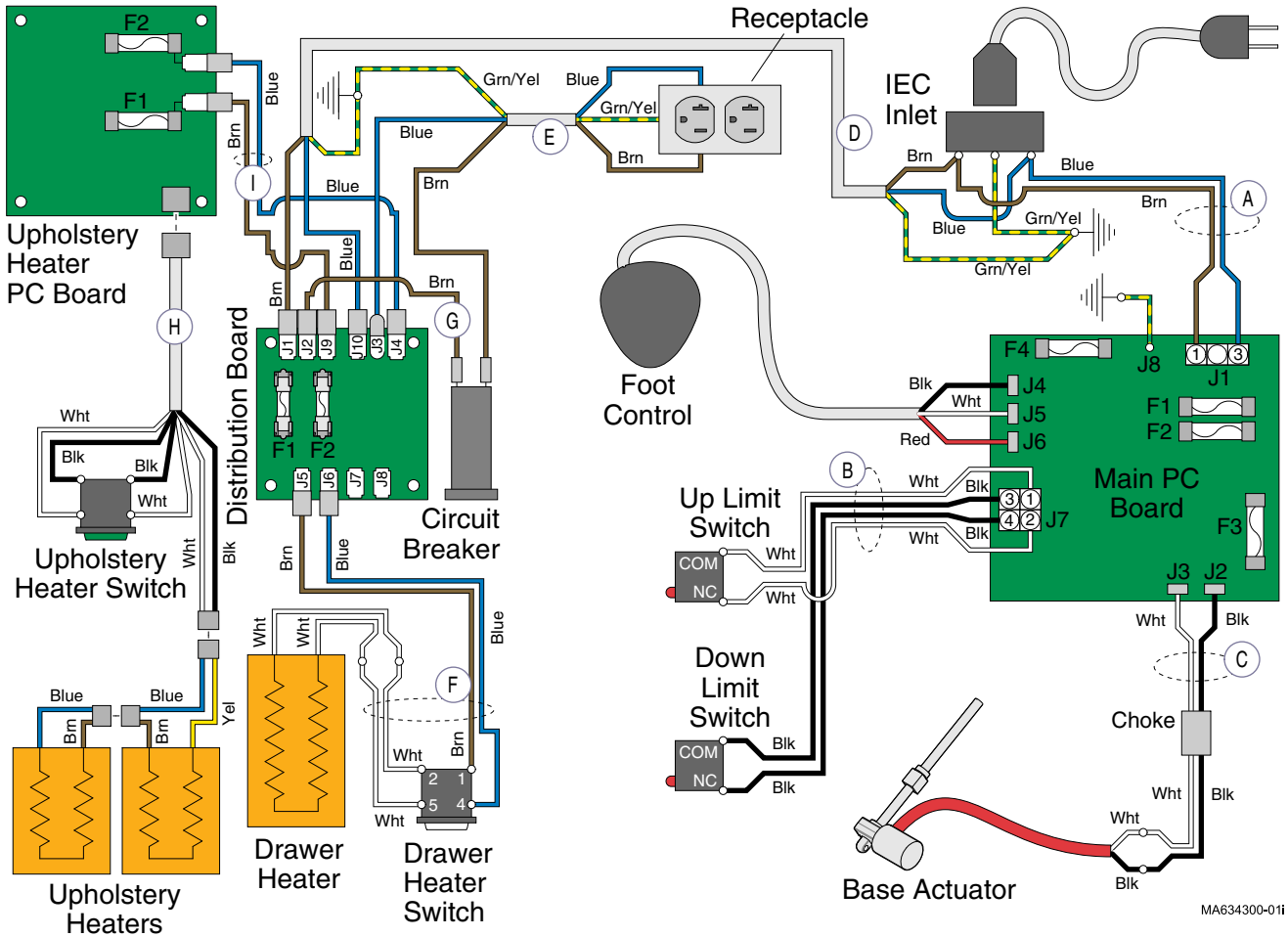
Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	BaseUp / Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Distribution Board	IEC Inlet	**015-1594-00**
E	Receptacle	Dist. Board / Circuit Breaker	**015-1595-00**
F	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
G	Circuit Breaker	Distribution Board	**015-0708-30**
H	Upholstery Heater Board	Upholstery Heater, On/Off Switch	**015-1720-00**
I	Distribution Board	Upholstery Heater Board	**015-1720-00**



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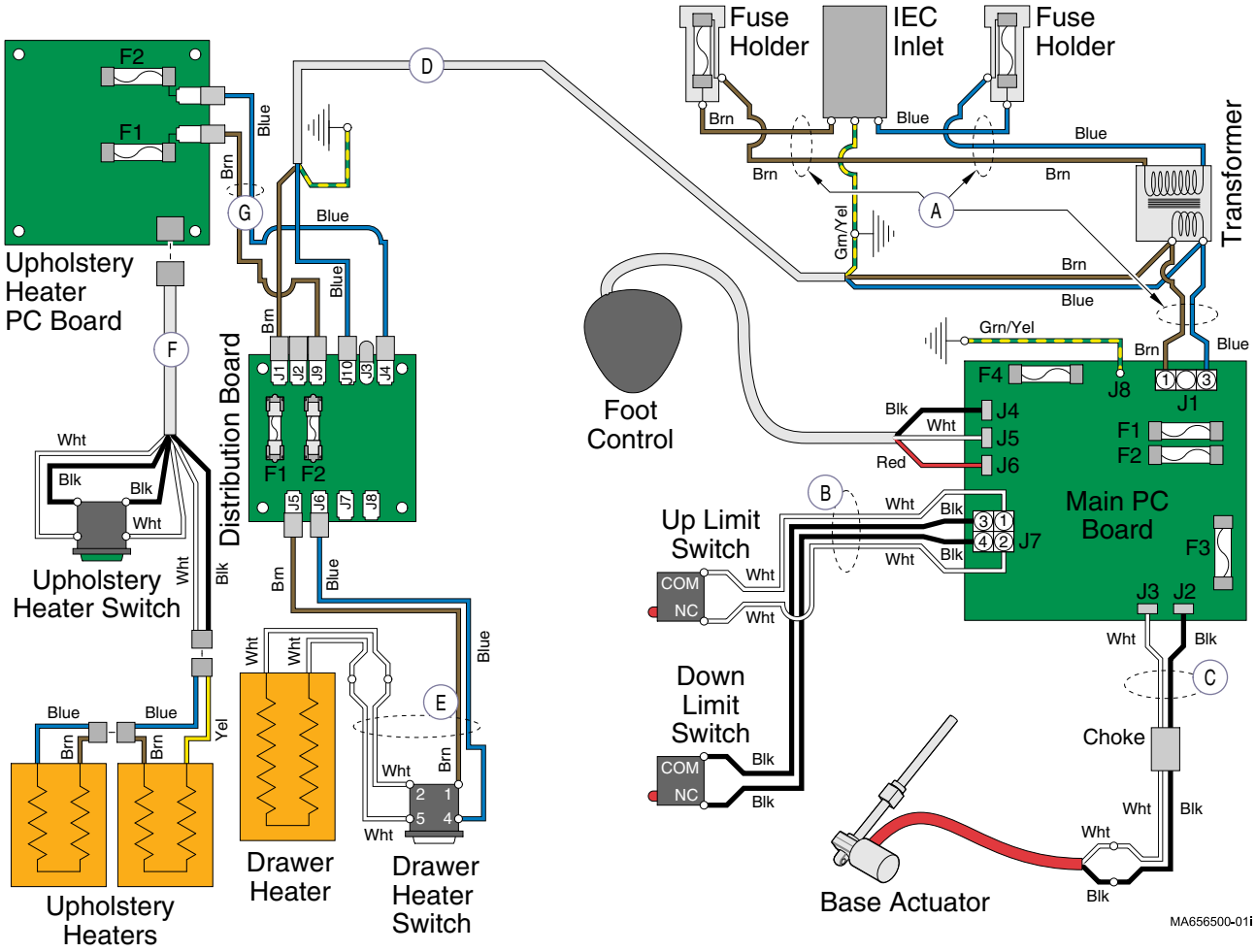

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1580-00** *(includes Item B)*
B	BaseUp / Down Limit Switches	Main PC Board	**015-1580-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Distribution Board	IEC Inlet	**015-1594-00**
E	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
F	Upholstery Heater Board	Upholstery Heater, On/Off Switch	**015-1722-00**
G	Distribution Board	Upholstery Heater Board	**015-1720-00**

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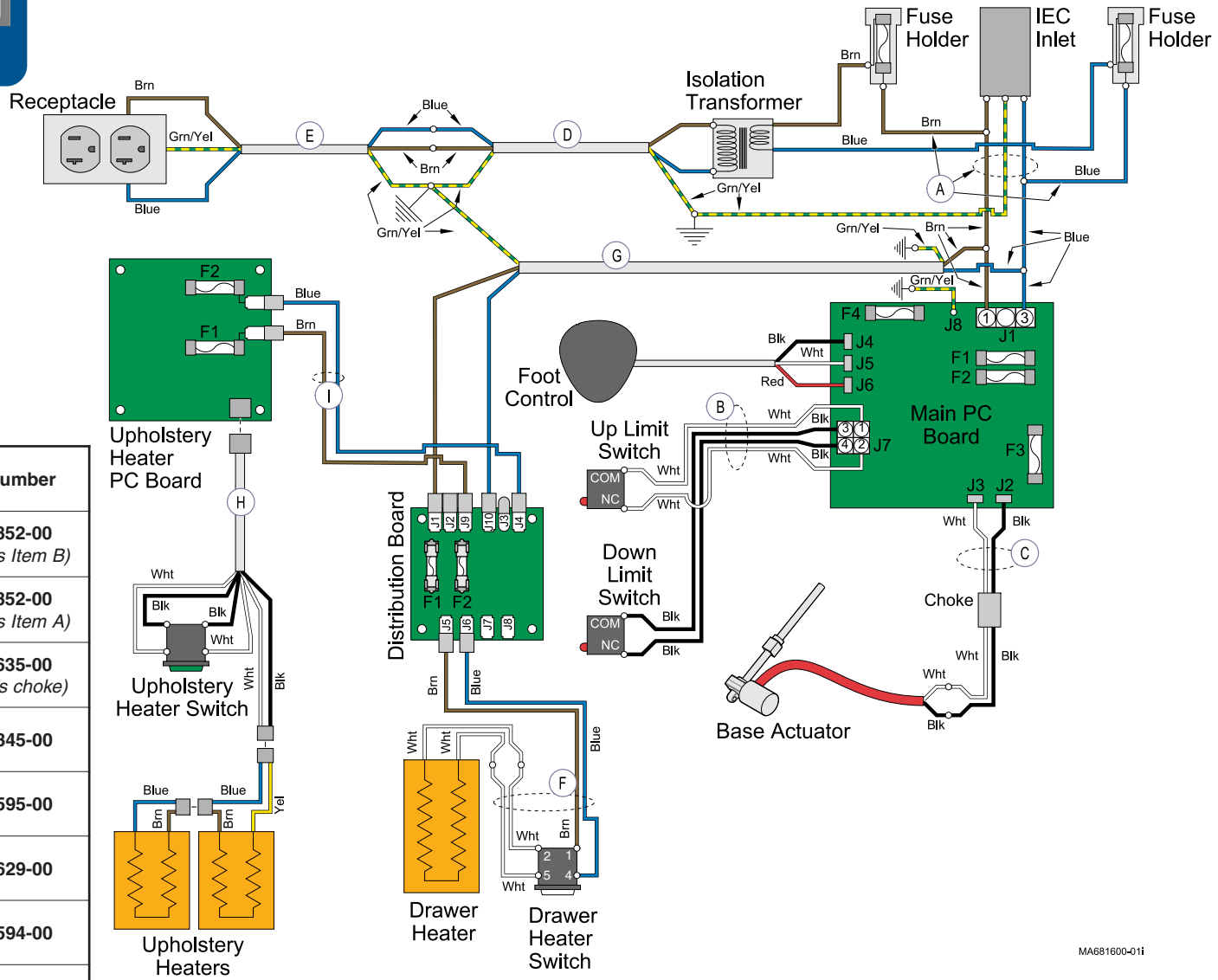

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1852-00** *(includes Item B)*
B	BaseUp / Down Limit Switches	Main PC Board	**015-1852-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Isolation Transformer	Item E	**015-1845-00**
E	Receptacle	Item D	**015-1595-00**
F	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
G	Distribution Board	Item A	**015-1594-00**
H	Uph. Heater PC Board	Upholstery Heater Switch	**015-1722-00**
I	Distribution Board	Uph. Heater PC Board	**015-1720-00**

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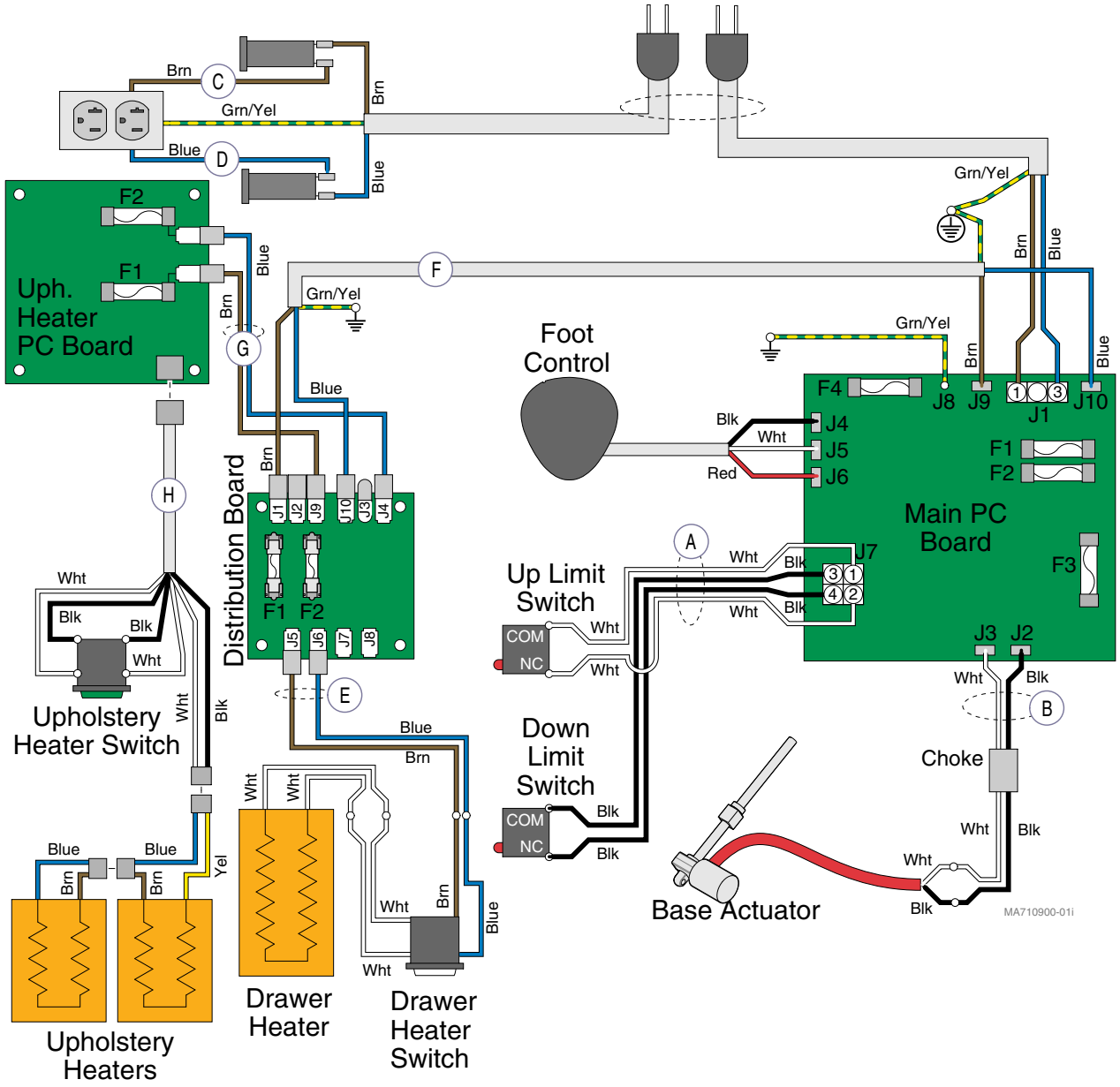
Wiring Diagrams

Refer To:
Fuses E-25

Go To Page:



Wire Harness	From:	To:	Part Number
A	BaseUp / Down Limit Switches	Main PC Board	**015-2003-00**
B	Base Actuator Wires	Main PC Board	**015-1635-00** *(incl. choke)*
C	Circuit Breaker *(brown wire)*	Table Receptacle	**015-1886-00**
D	Circuit Breaker *(blue wire)*	Table Receptacle	**015-1886-01**
E	Drawer Heater Switch with Harness	Distribution Board	**015-1759-00**
F	Distribution Board	Main PC Board	**015-2005-00**
G	Distribution Board	Uph. Heater PC Board	**015-2006-00**
H	Uph. Heater Switch	Uph. Heater PC Board	**015-1722-00**

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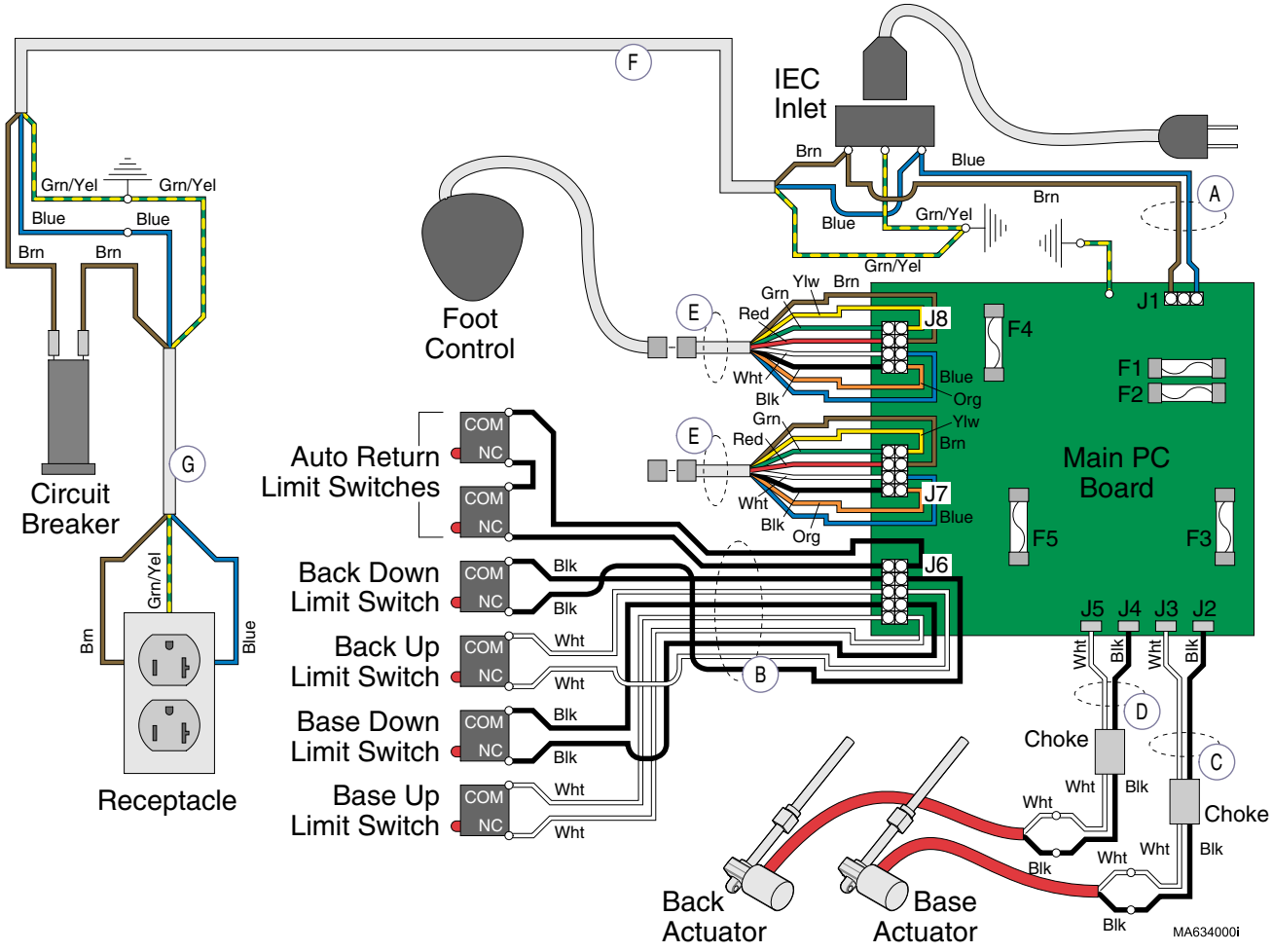
Wiring Diagrams

Refer To: Go To Page:
Fuses E-25

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1741-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1741-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Circuit Breaker	IEC Inlet	**015-1594-00**
G	Receptacle	Circuit Breaker	**015-1595-00**



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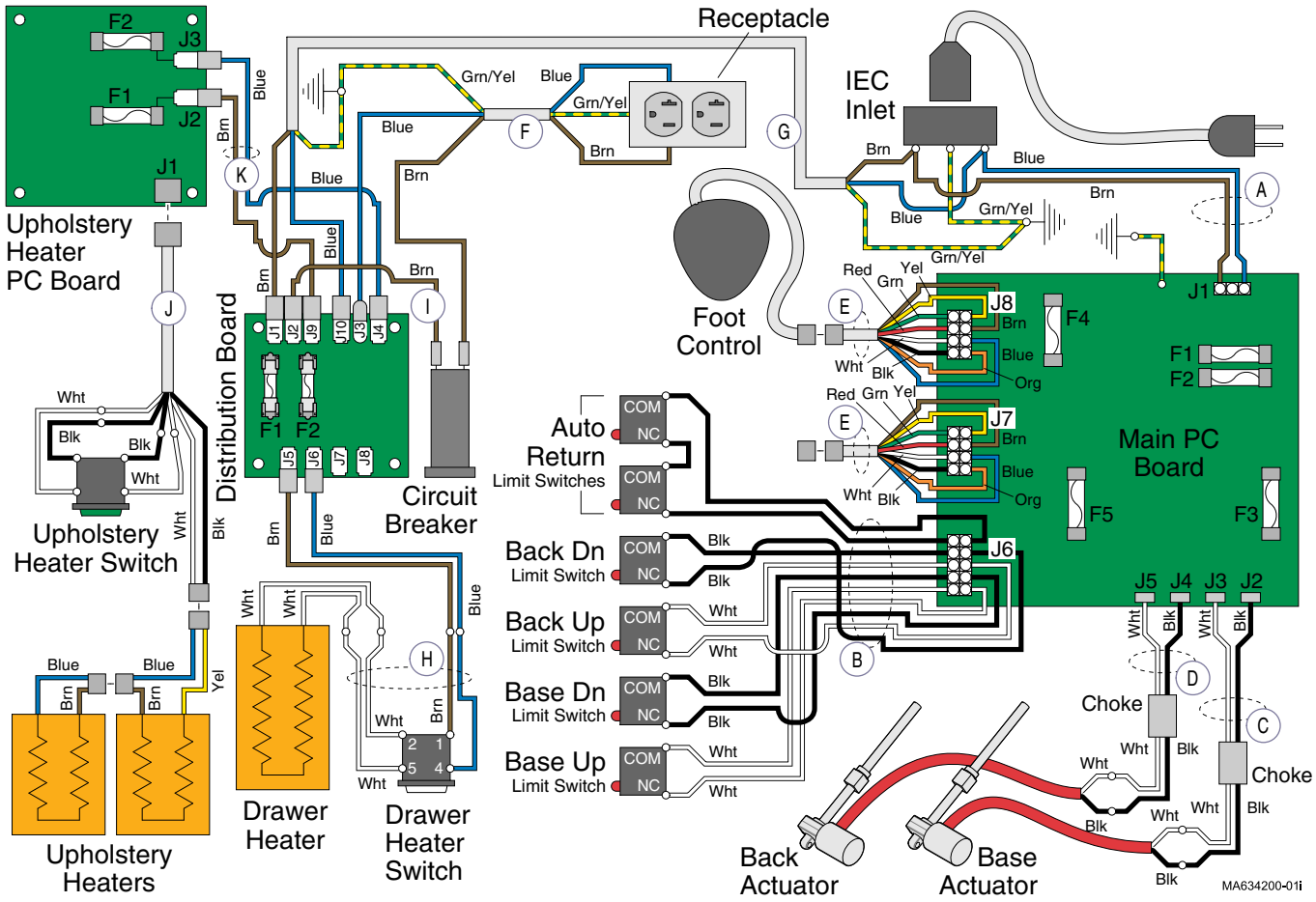
Wiring Diagrams

Refer To:
Fuses E-25

Go To Page:



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1741-00** *(includes Item B)*
B	Base,Back, & Auto Return Limit Switches	Main PC Board	**015-1741-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Receptacle	Circuit Breaker	**015-1595-00**
G	Distribution Board	IEC Inlet	**015-1594-00**
H	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
I	Circuit Breaker	Distribution Board	**015-0708-30**
J	Upholstery Heater Board	Upholstery Heater, On/Off Switch	**015-1722-00**
K	Distribution Board	Upholstery Heater Board	**015-1720-00**

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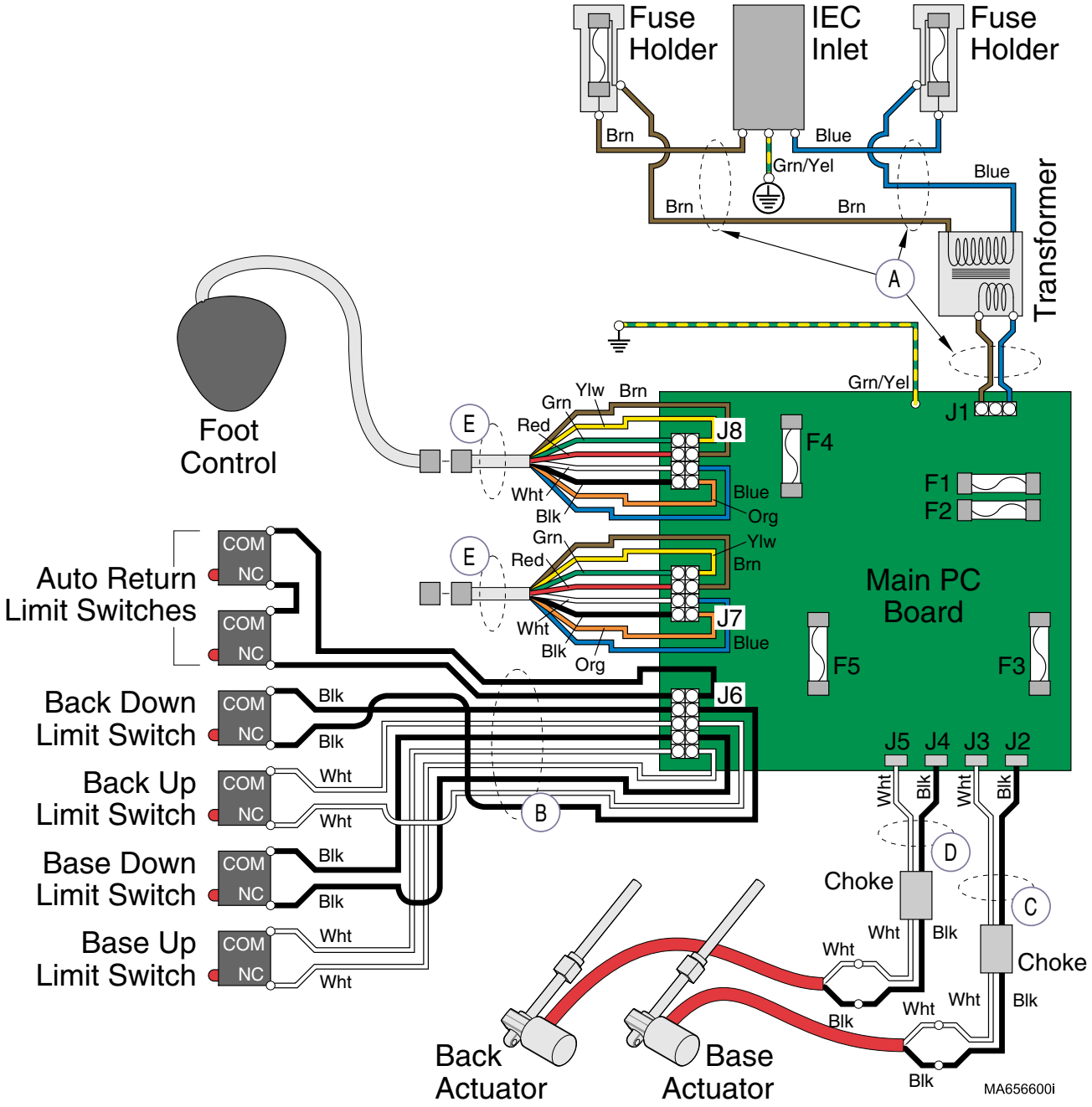
Wiring Diagrams

Refer To: Go To Page:
Fuses E-25



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1809-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1809-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**

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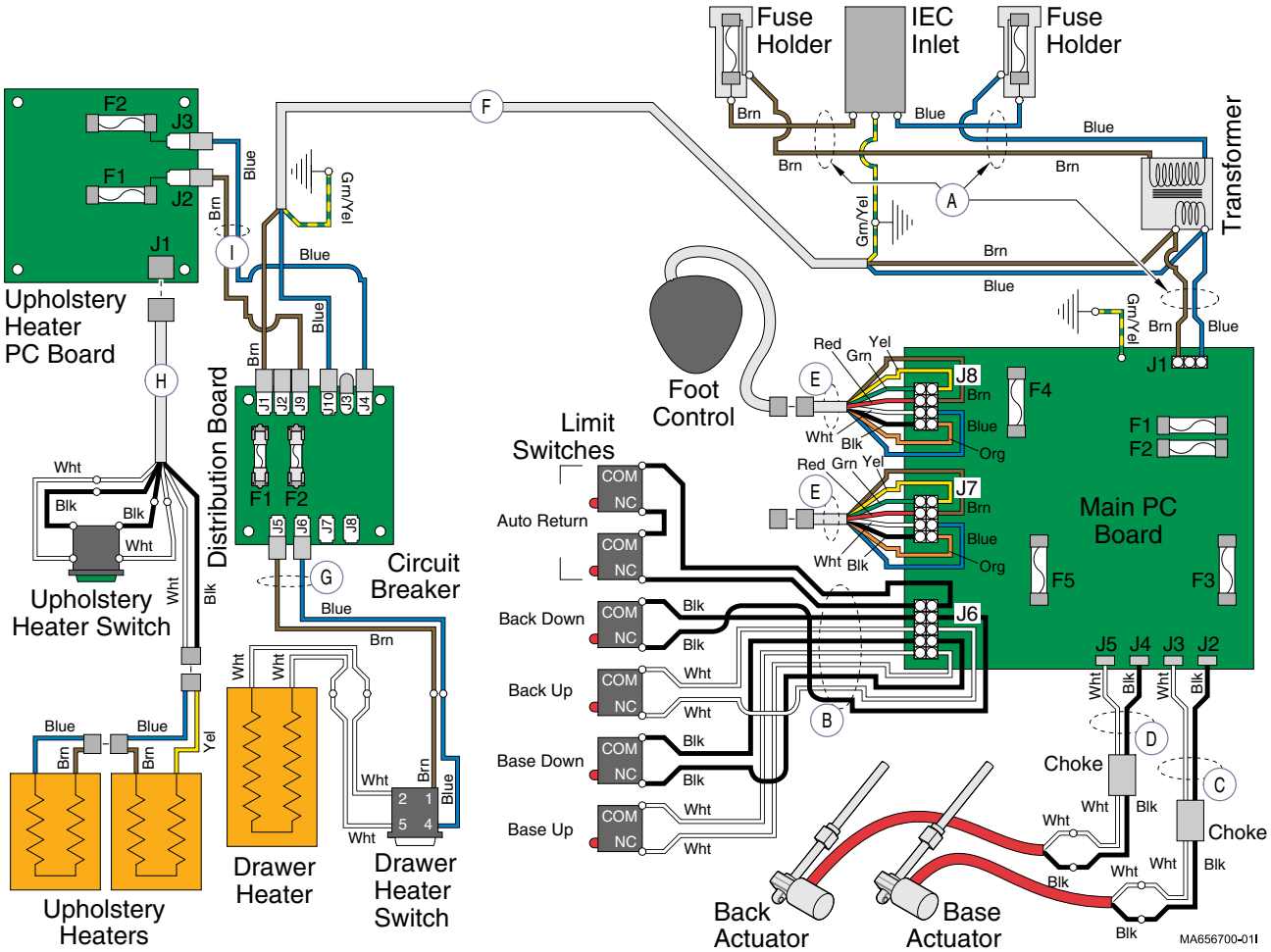
Wiring Diagrams

Refer To: Fuses E-25

Go To Page:



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1809-00** *(includes Item B)*
B	Limit Switches (all)	Main PC Board	**015-1809-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	IEC Inlet	**015-1594-00**
G	Drawer Heater Switch	Distribution Board	*623-004* **015-1629-00**
	Drawer Heater Switch with Harness	Distribution Board	*623-010* **015-1759-00**
H	Uph. Heater PC Board	Uph.Heater Switch	**015-1722-00**
I	Distribution Board	Uph. Heater PC Board	*623-004* **015-1720-00** *623-010* **015-2006-00**

Models: / ***Serial Numbers:***	***623*** *(-004)*	***623*** *(-010)*
	all	V2200 thru V256516

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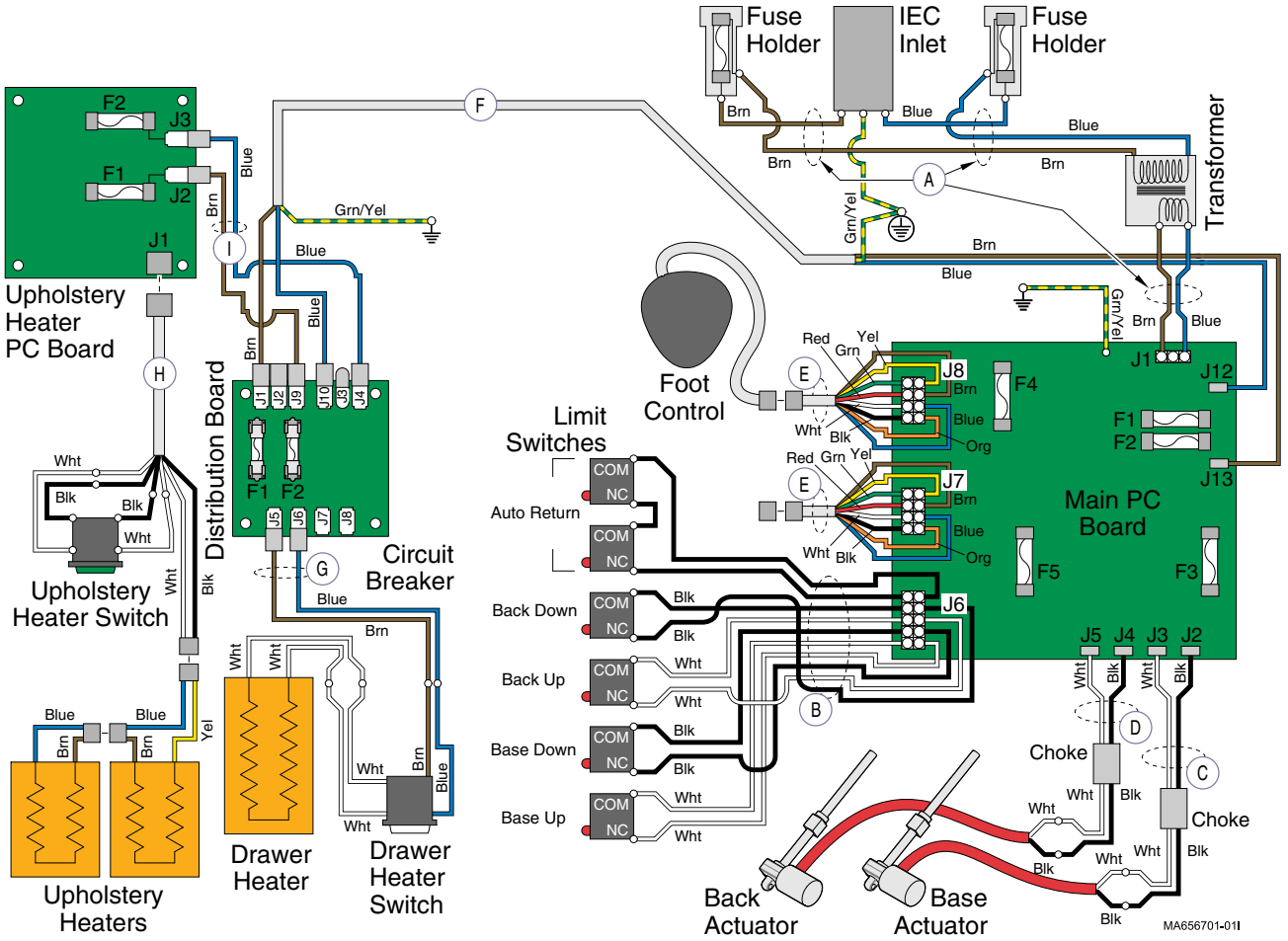
Wiring Diagrams

Refer To: Go To Page:
Fuses E-25

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1809-00** *(includes Item B)*
B	Limit Switches (all)	Main PC Board	**015-1809-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	IEC Inlet	**015-2005-00**
G	Drawer Heater Switch	Distribution Board	*623-004* **015-1629-00**
	Drawer Heater Switch with Harness	Distribution Board	*623-010* **015-1759-00**
H	Uph. Heater PC Board	Uph.Heater Switch	**015-1722-00**
I	Distribution Board	Uph. Heater PC Board	*623-004* **015-1720-00** *623-010* **015-2006-00**



Models: *623 (-010)*
Serial Numbers: V256517 thru present

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Wiring Diagrams

Refer To:
Fuses E-25

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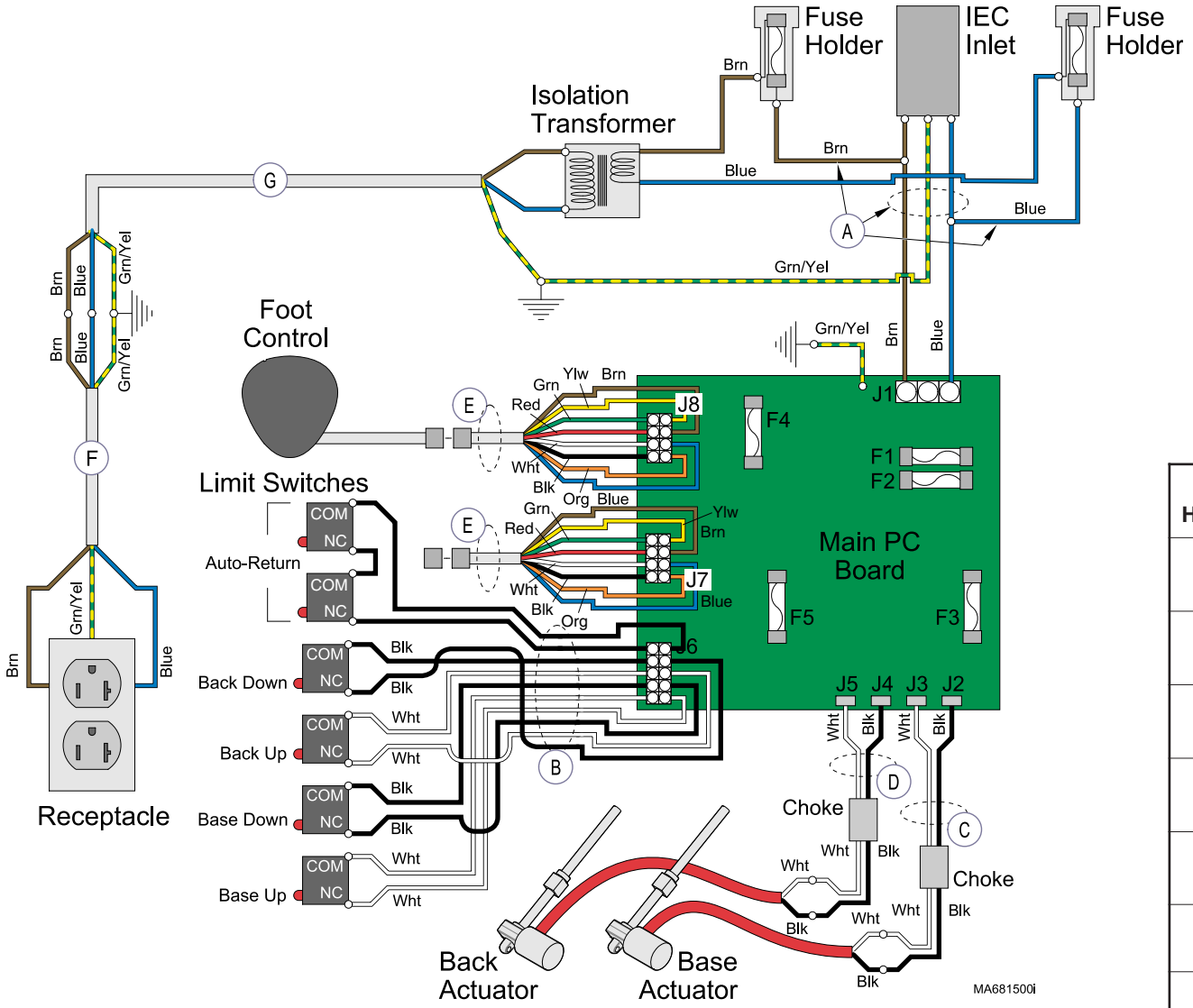

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1854-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1854-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Receptacle	Item G	**015-1595-00**
G	Isolation Transformer	Item F	**015-1845-00**

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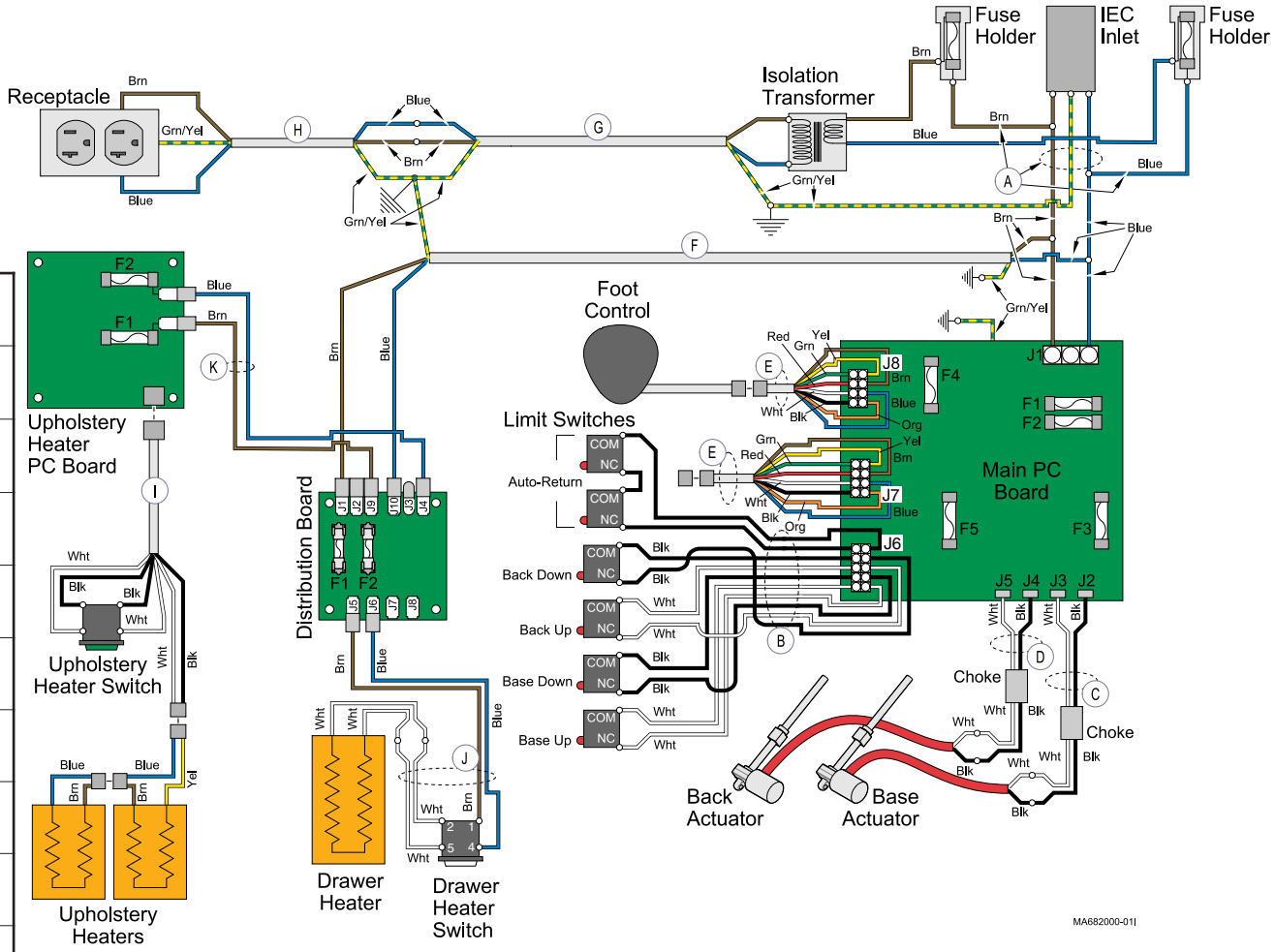
Wiring Diagrams

Refer To: Go To Page:
Fuses E-25

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1854-00** *(includes Item B)*
B	Limit Switches (all)	Main PC Board	**015-1854-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	Item A	**015-1594-00**
G	Isolation Transformer	Item H	**015-1845-00**
H	Receptacle	Item G	**015-1595-00**
I	Uph. Heater PC Board	Upholstery Heater Switch	**015-1722-00**
J	Drawer Heater Plate / Switch	Distribution Board	**015-1629-00**
K	Distribution Board	Uph. Heater PC Board	**015-1720-00**



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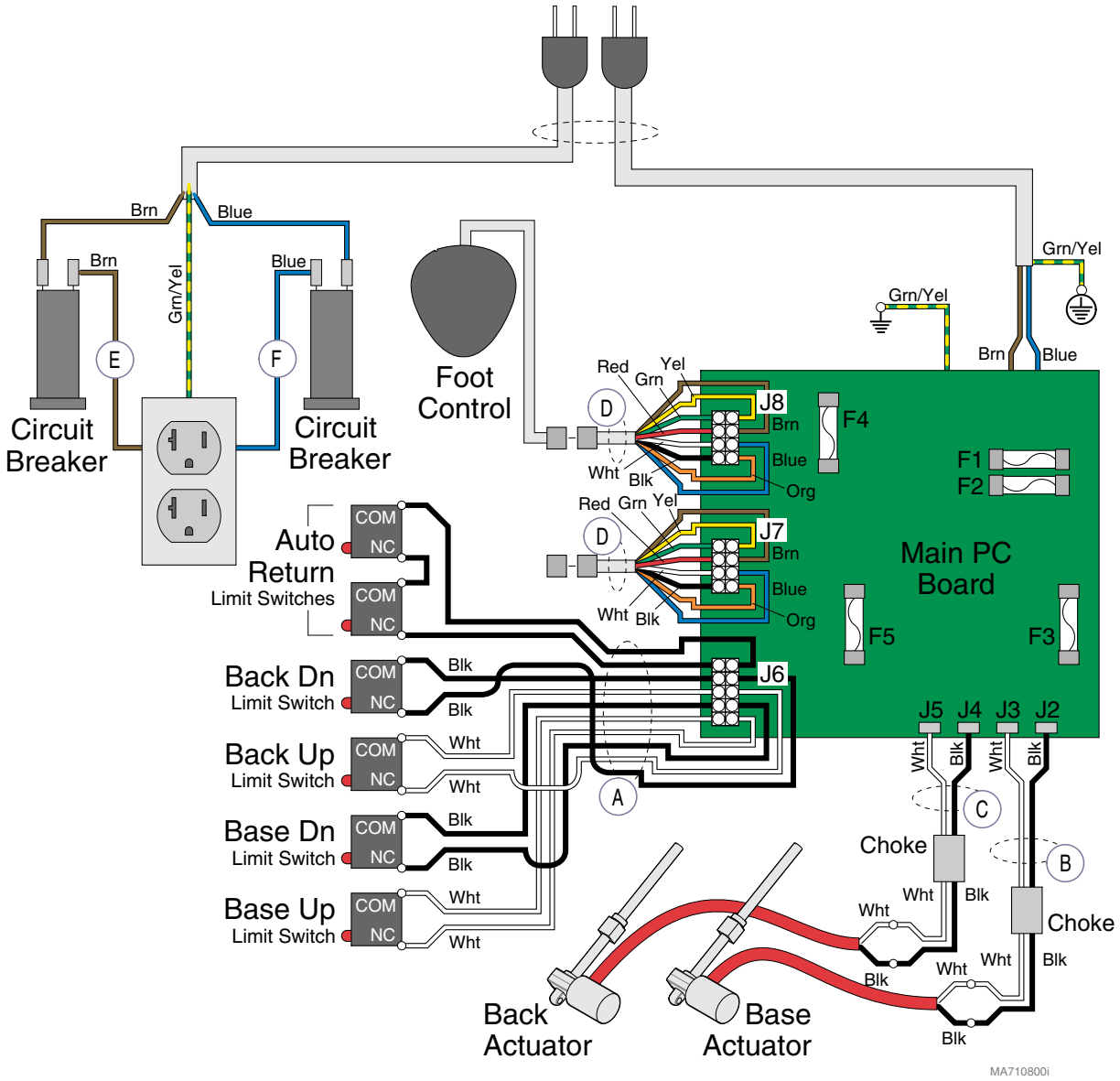
Wiring Diagrams

Refer To:
Fuses E-25

Go To Page:



Wire Harness	From:	To:	Part Number
A	Limit Switches *(all)*	Main PC Board	**015-2008-00**
B	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
C	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Foot / Hand Control Port	Main PC Board	**015-1784-00**
E	Circuit Breaker *(brown wire)*	Table Receptacle	**015-1886-00**
F	Circuit Breaker *(blue wire)*	Table Receptacle	**015-1886-01**

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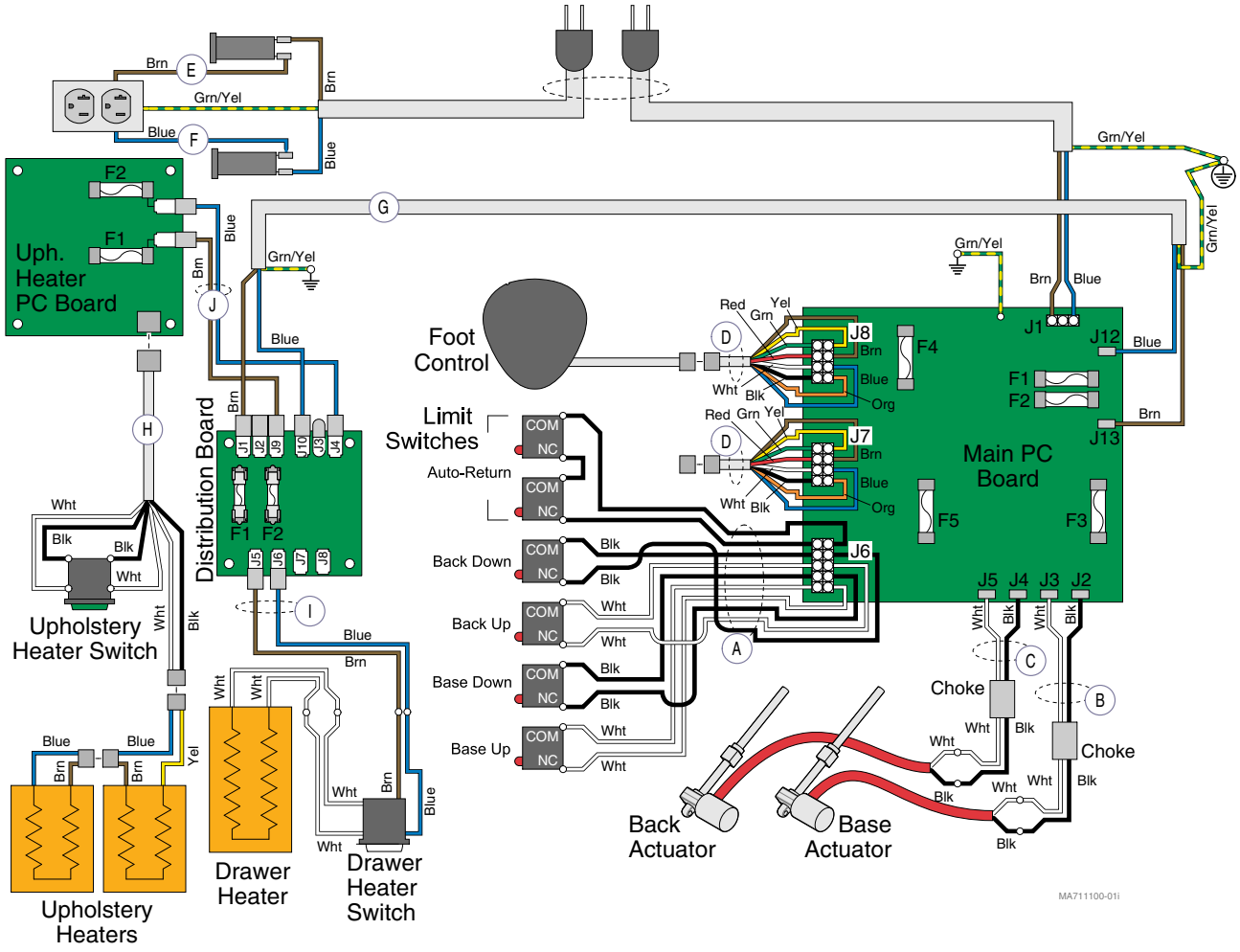
Wiring Diagrams

Refer To: Fuses ..... **Go To Page:** E-25

Wire Harness	From:	To:	Part Number
A	Limit Switches (all)	Main PC Board	**015-2008-00**
B	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
C	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Foot Control Inlet	Main PC Board	**015-1784-00**
E	Circuit Breaker *(brown wire)*	Table Receptacle	**015-1886-00**
F	Circuit Breaker *(blue wire)*	Table Receptacle	**015-1886-01**
G	Distribution Board	Main PC Board	**015-2005-00**
H	Uph. Heater PC Board	Upholstery Heater Switch	**015-1722-00**
I	Drawer Heater Switch with Harness	Distribution Board	**015-1759-00**
J	Distribution Board	Uph. Heater PC Board	**015-2006-00**



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Wiring Diagrams

Refer To:
Fuses E-25

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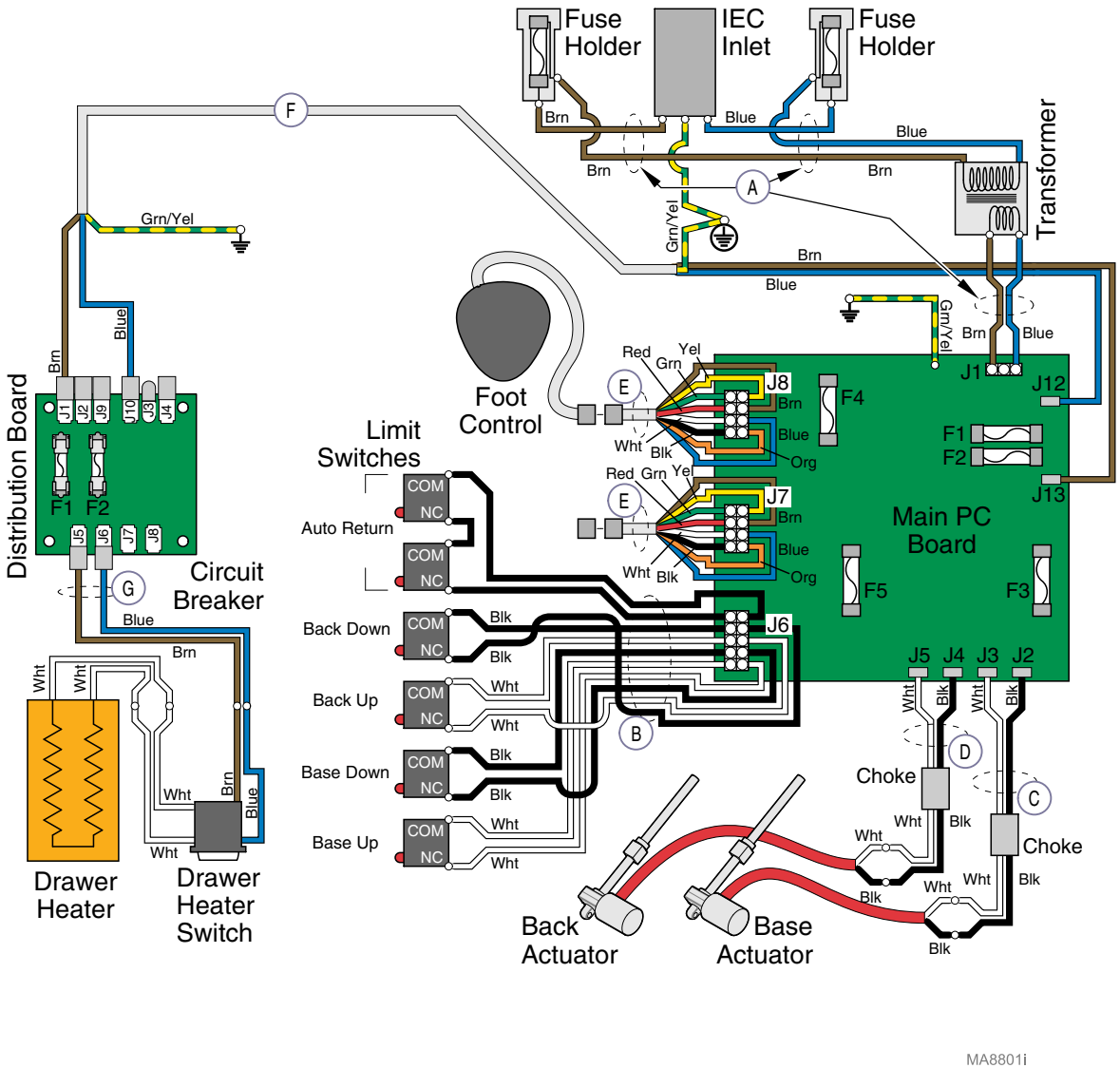

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1809-00** *(includes Item B)*
B	Limit Switches (all)	Main PC Board	**015-1809-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	IEC Inlet	**015-2005-00**
G	Drawer Heater Switch with Harness	Distribution Board	**015-1759-00**

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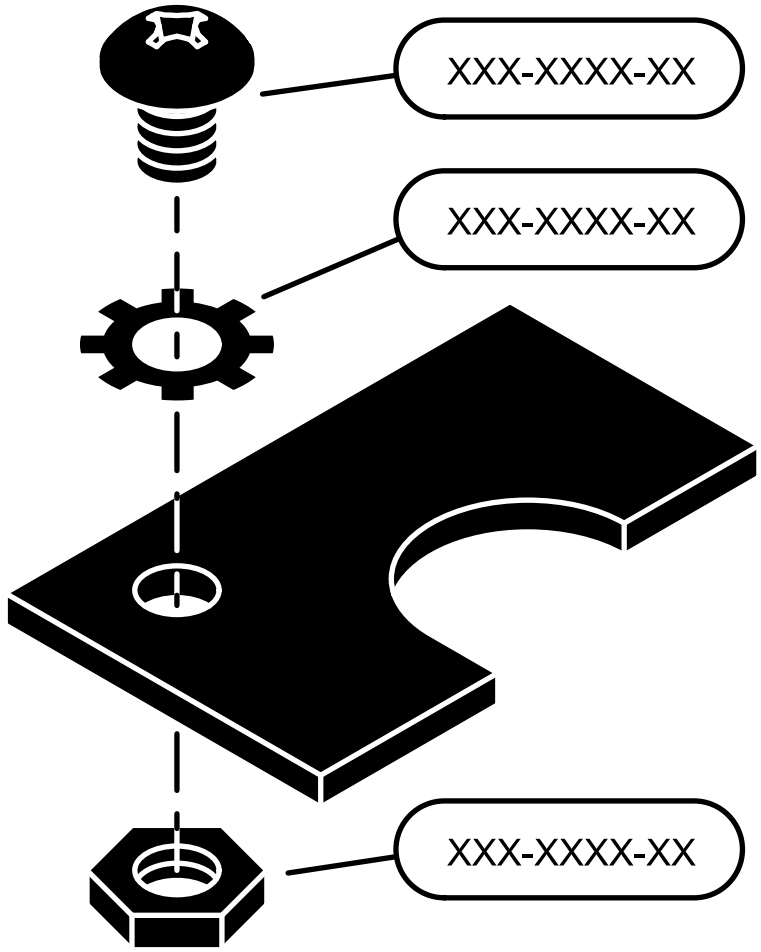
Section E

Exploded Views & Parts Lists

Model	Go To Page:
222	E-2
223	E-3
622	E-4
623	E-5



Go To Table Of Contents

222

Upholstery - Ritter:
Soft Touch E-6*
Seamless E-7*

includes:
footrest pad, paper roll holder, handles, etc.

Ritter Upperwrap & Footrest Shelf E-16*

includes:
footrest shelf, stirrup guide, treatment pan, etc.

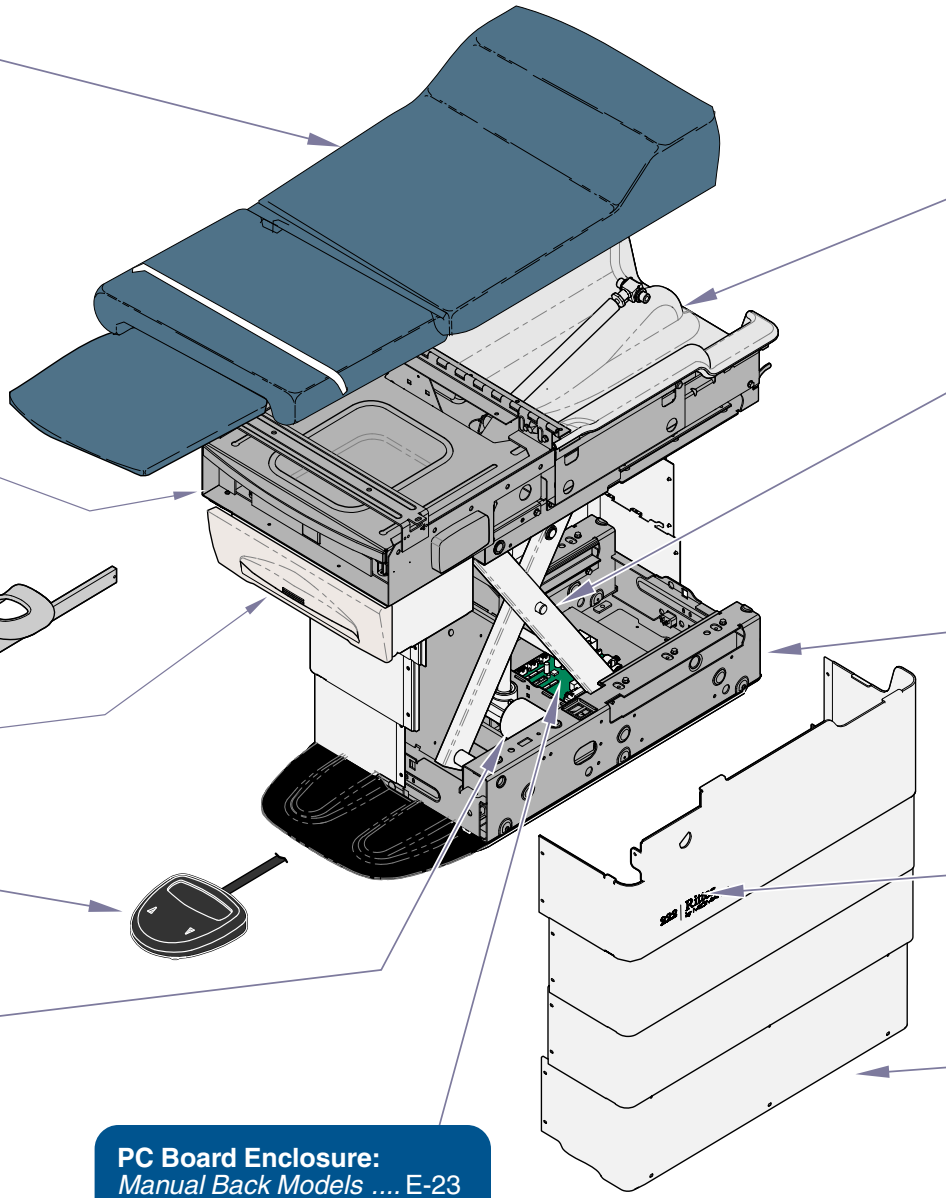
Stirrups. E-18

Exam Assistant Drawer Assy. E-26

Foot Control:
222 / 622 ..... E-27

Base Actuator. E-22

Fuses *(all)* E-25



MA715300i

PC Board Enclosure:
Manual Back Models E-23

includes:
PC Board, cover, mtg hardware

Optional Features
Drawer Heater E-31*
Pelvic Tilt E-32*
Table Receptacle E-34*
Transformer / Fuses:
230 VAC Models E-36
Canadian Models E-35

Manual Back Components E-10*
Handle Kit E-11

includes:
gas spring, top cover, handles, release mechanism, etc.

Base Scissor / Slide Mechanism E-19*

Ritter Base Components E-20*

includes:
power cord, base slides base limit switches, etc.

Label Location E-38

Table Shrouds:
Ritter Models E-14*

**** Indicates multiple pages due to a model / serial number break for the parts illustration***

223

Upholstery - Ritter:
Soft Touch E-6*
Seamless E-7*

includes:
footrest pad, paper roll holder, handles, etc.

Ritter Upperwrap & Footrest Shelf E-16.1*

includes:
footrest shelf, stirrup guide, treatment pan, etc.

Stirrups. E-18

Exam Assistant Drawer Assy. E-26

Table Receptacle System E-34*

Foot Control:
223 ..... E-28*

Base Actuator. E-22

Hand Control E-30*
(Optional)

PC Board Enclosure:
Power Back Models E-24

includes:
PC Board, cover, mtg hardware

Optional Features
Drawer Heater E-31*
Pelvic Tilt E-32*
Transformer / Fuses:
230 VAC Models E-36
Canadian Models E-35

Power Back Components E-12*

includes:
limit switches, top cover, etc.

Back Actuator E-13

Base Scissor / Slide Mechanism E-19.2*

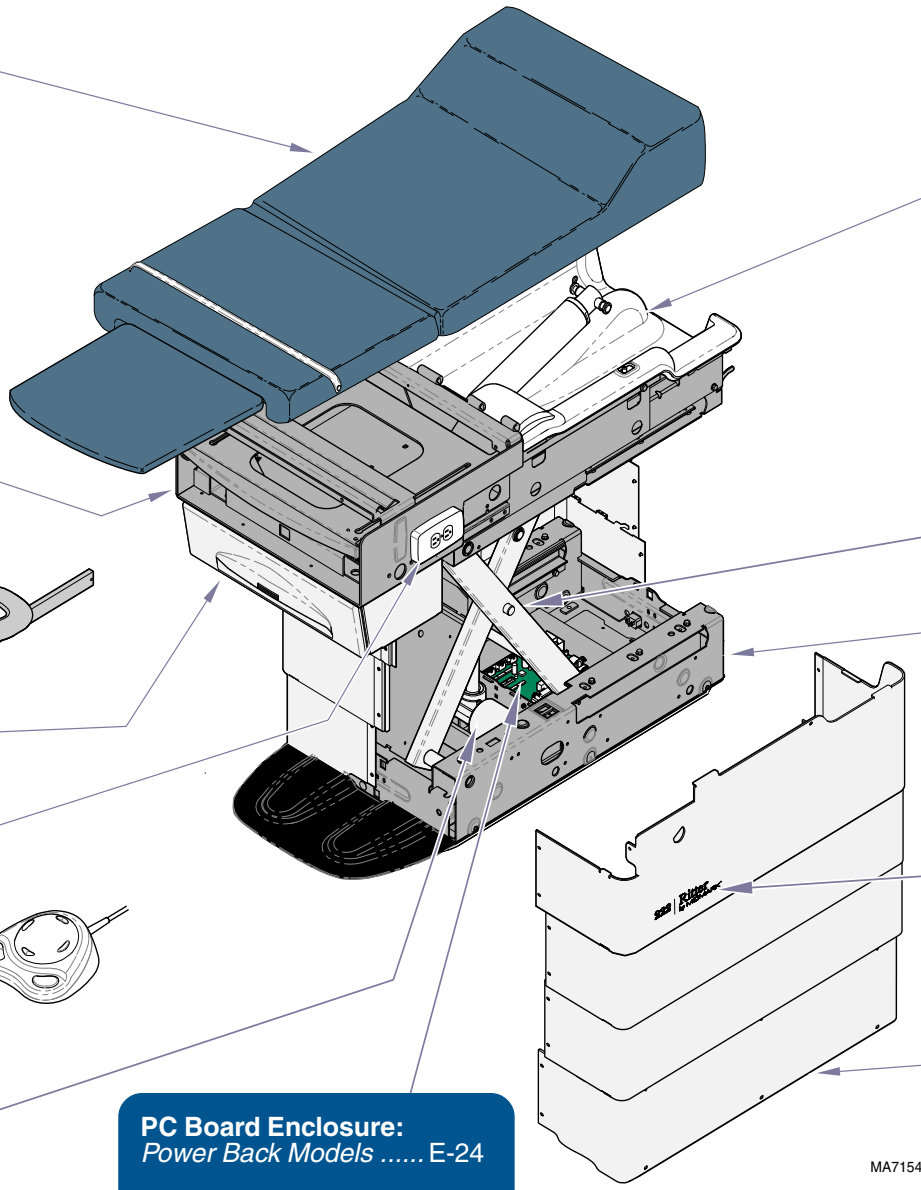
Ritter Base Components E-20.2*

includes:
power cord, base slides base limit switches, etc.

Label Location E-38

Table Shrouds:
Ritter Models E-14.1*

Fuses *(all)* E-25

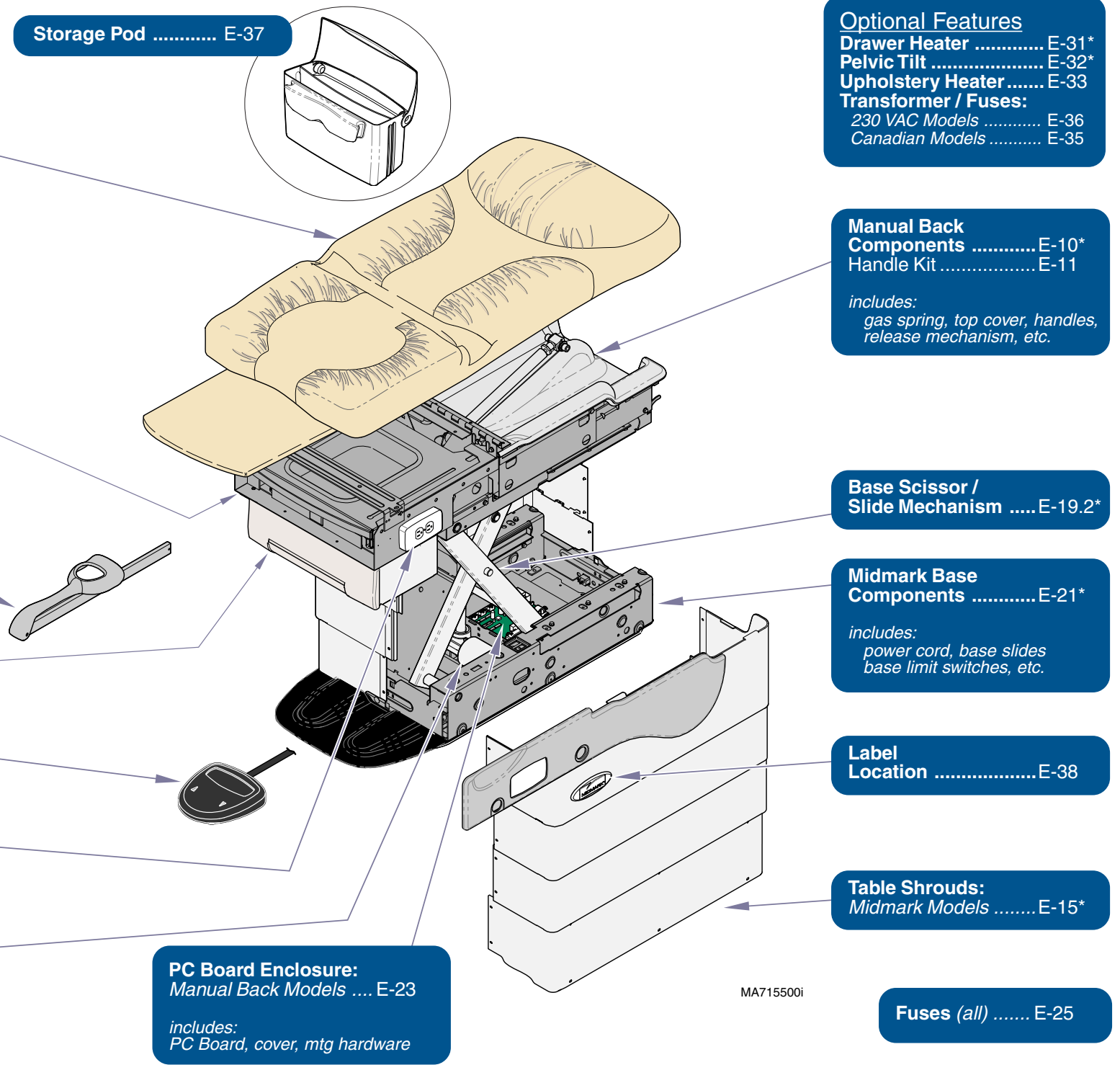


MA715400i

** Indicates multiple pages due to a model / serial number break for the parts illustration*

Go To Table Of Contents

622



Storage Pod E-37

Upholstery - Midmark:
Premium E-8*
Ultra-Premium E-9*

includes:
footrest pad, paper roll holder, handles, etc.

Midmark Upperwrap & Footrest Shelf E-17*

includes:
footrest shelf, stirrup guide, treatment pan, etc.

Stirrups. E-18

Exam Assistant Drawer Assy. E-26

Foot Control:
222 / 622 ..... E-27

Table Receptacle System E-34*

Base Actuator. E-22

PC Board Enclosure:
Manual Back Models E-23

includes:
PC Board, cover, mtg hardware

Optional Features
Drawer Heater E-31*
Pelvic Tilt E-32*
Upholstery Heater E-33
Transformer / Fuses:
230 VAC Models E-36
Canadian Models E-35

Manual Back Components E-10*
Handle Kit E-11

includes:
gas spring, top cover, handles, release mechanism, etc.

Base Scissor / Slide Mechanism E-19.2*

Midmark Base Components E-21*

includes:
power cord, base slides base limit switches, etc.

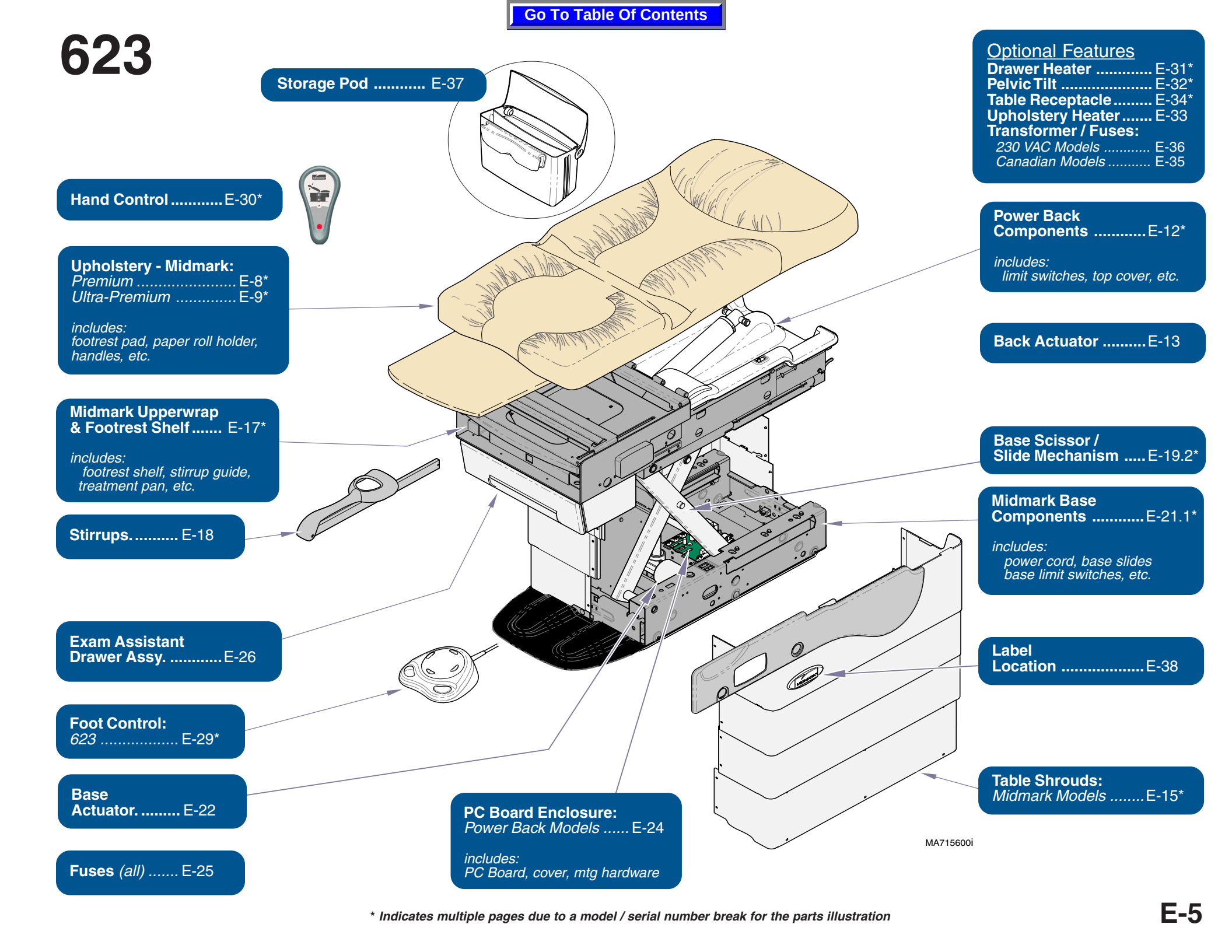
Label Location E-38

Table Shrouds:
Midmark Models E-15*

Fuses *(all)* E-25

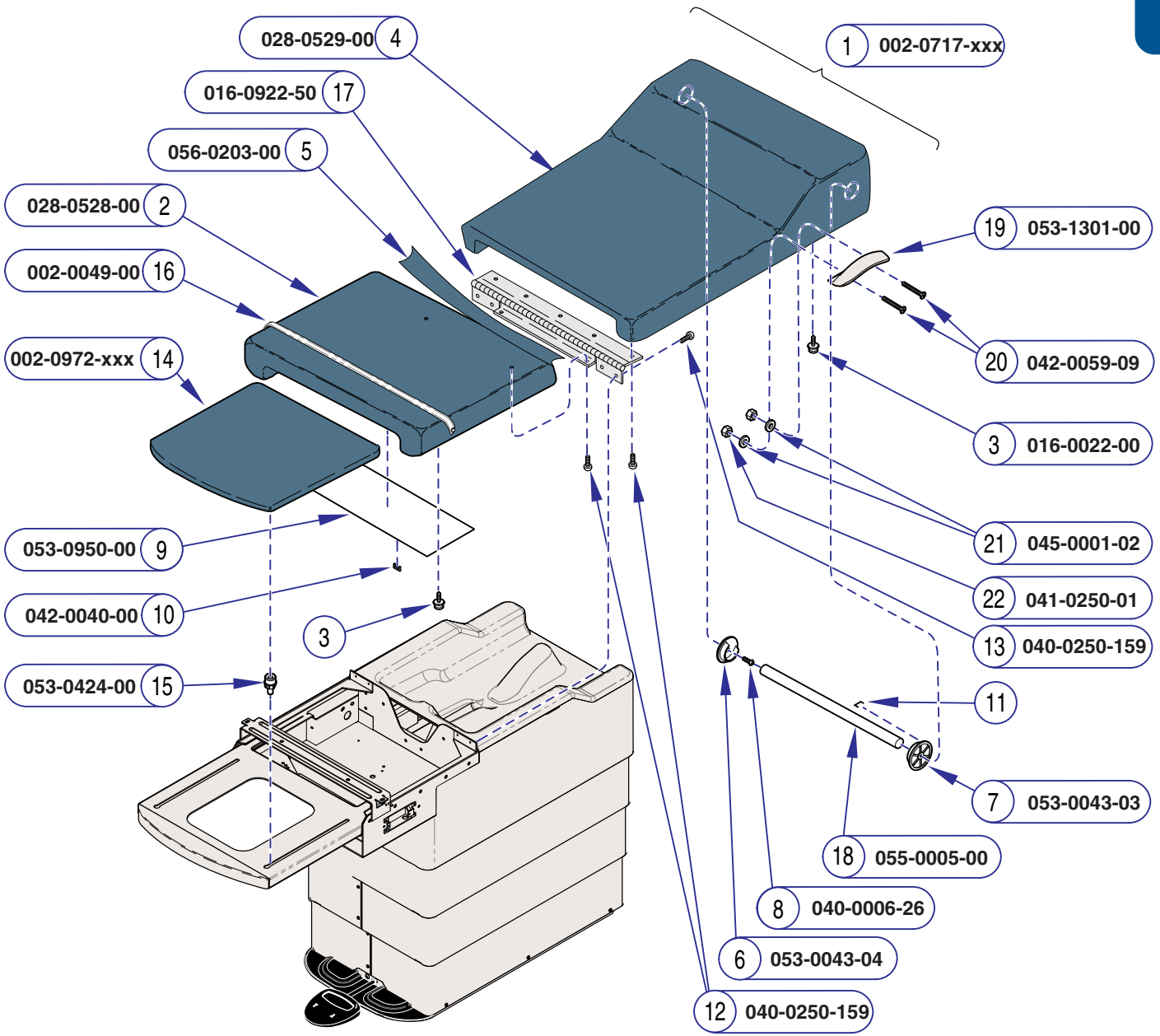
**** Indicates multiple pages due to a model / serial number break for the parts illustration***

623



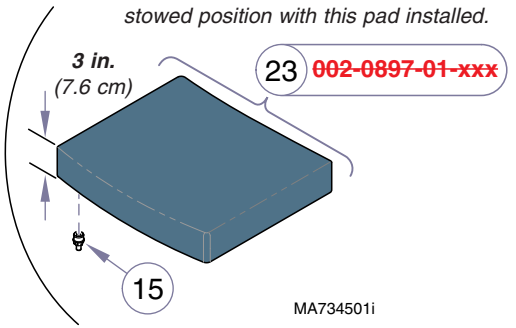
** Indicates multiple pages due to a model / serial number break for the parts illustration*

Refer To:
Color Selector ..... www.midmark.com



MA588606i

Item #23 is a special order option.
Note: *The footrest shelf will not slide into the stowed position with this pad installed.*



MA734501i

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Cut & Sewn Upholstery Kit *(includes items 2 thru 13)*	1
2	• Upholstered Seat w/Stud *(specify color)*	1
3	• • Stud	4
4	• Upholstered Headboard w/Stud *(specify color)*	1
5	• Hinge Cover *(specify color)*	1
6	• R.H. Dowel Socket	1
7	• L.H. Dowel Socket	1
8	• Screw *(#6 x .5")*	2
9	• Scuff Plate	1
10	• Staple	10
11	• Staple	AR
12	• Screw	4
13	• Screw *(1/4-20 x .87")*	8
14	Upholstered Footrest *(specify color)*	1
15	Footrest Glide	4
16	Tear Straps Kit *(includes two straps)*	1
17	Hinge Assembly	1
18	Dowel Rod	1
19	Release Handle Grip *(222 only)*	2
20	Screw *(1/4-20 x 1.75" [222 only])*	4
21	Washer *(222 only)*	4
22	Nut *(1/4-20 [222 only])*	4
23	Footrest Pad - *special (3 in. thick) [includes four glides (item #15)]*	1

Always Specify Model & Serial Number

Upholstery - Ritter
(Soft Touch)

Models: Serial Numbers:	***222*** *(-001 thru -004, -011, -012)* All	***223*** *(-001 thru -004, -011, -012)* All

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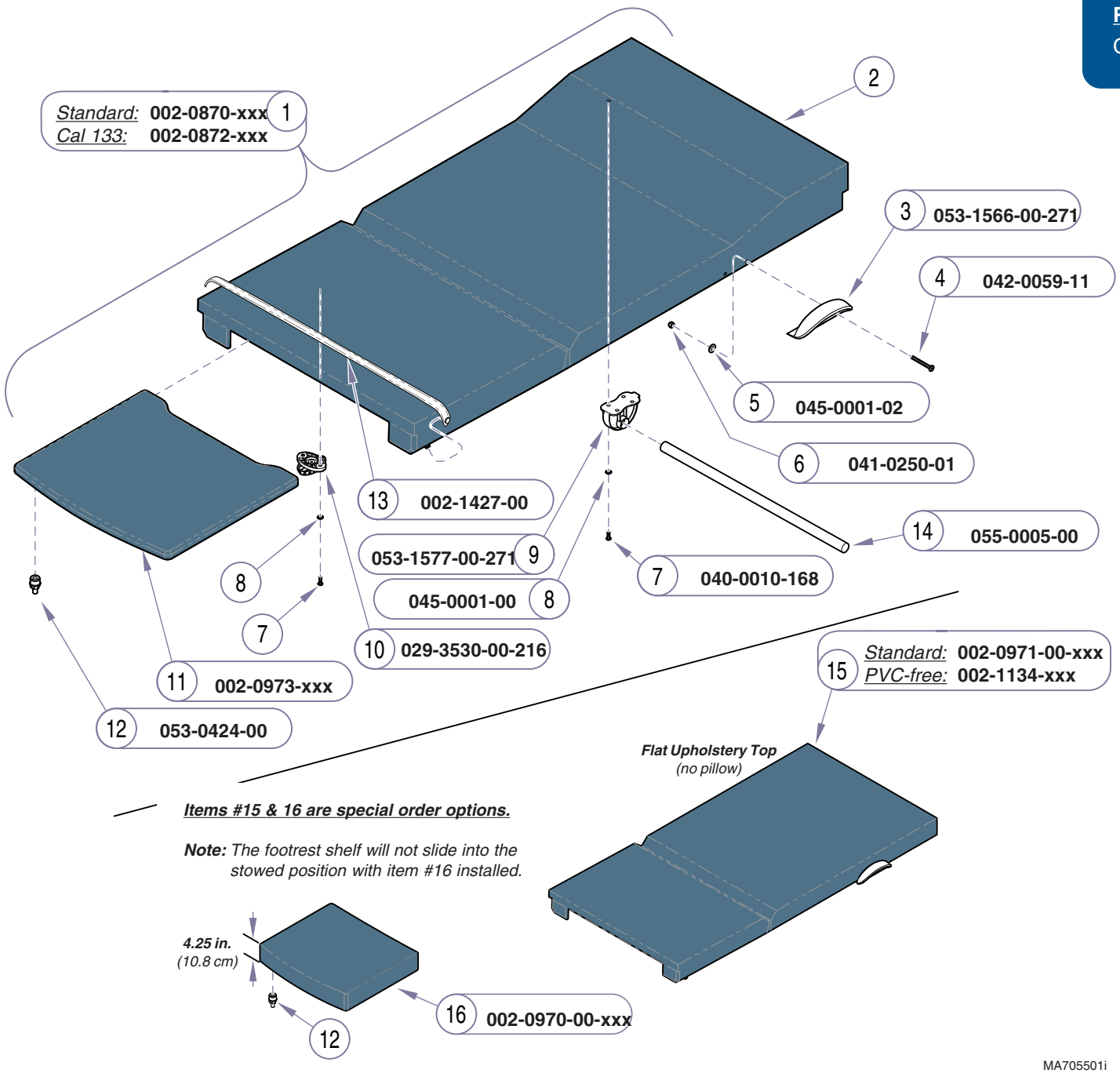
Refer To:
Color Selector ..... www.midmark.com



MA705501i

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set *(includes items 2 thru 12)*	1
2	• Seat/Back Upholstery	1
3	• Handle	2
4	• Screw	4
5	• Washer	4
6	• Nylock Nut	4
7	• Screw *(10-24 x 5/8")*	16
8	• Washer *(early models only)*	16
9	• Paper Roll Bracket	2
10	• Locking Knob	6
11	• Footrest Pad	1
12	• Footrest Glide	4
13	Tear Strap	1
14	Dowel Rod	1
15	Flat Upholstery Top *(includes items 3 thru 10)*	1
16	Footrest Pad - *special (4.25 in. thick) [includes four glides (item #12)]*	1

Always Specify Model & Serial Number

Models: Serial Numbers:

222 *(-015 thru -017)*	***223*** *(-015 & -016)*
All	*All*

Upholstery - Ritter
(Soft Touch)

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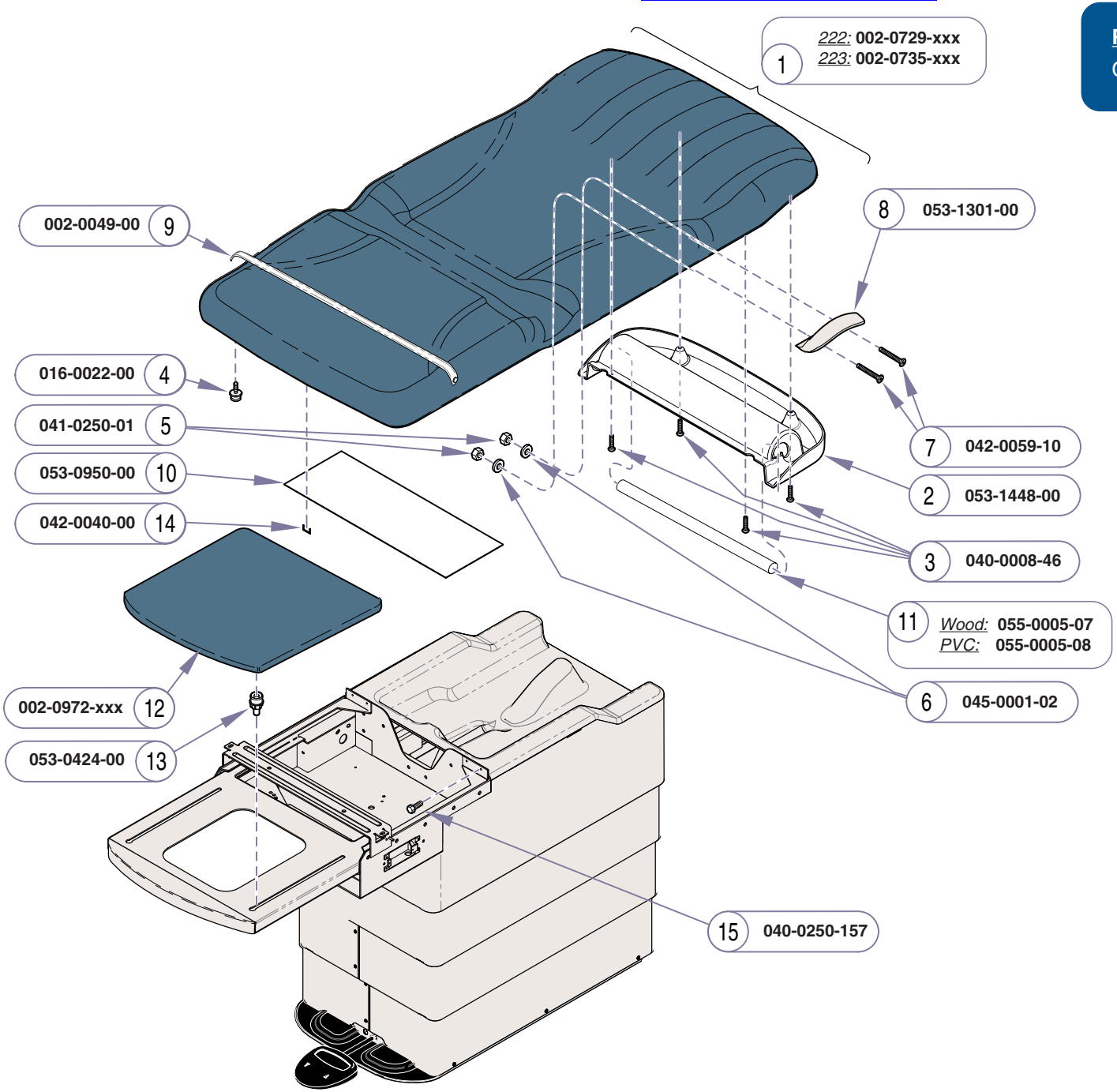
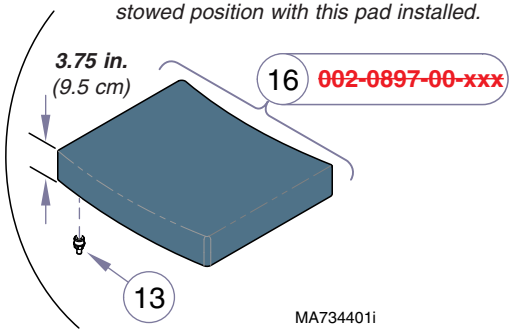
Refer To:
Color Selector ..... www.midmark.com



MA618505

Item #16 is a special order option.

Note: *The footrest shelf will not slide into the stowed position with this pad installed.*



MA734401i

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Seamless Upholstery Top:	
	222 (includes items 2 thru 8)	1
	223 (includes items 2 thru 4)	1
2	• Paper Roll Holder	1
3	• Screw	4
4	• Stud	2
5	• Nut *(222 only)*	4
6	• Washer *(222 only)*	4
7	• Bolt *(222 only)*	4
8	• Release Handle Grip *(222 only)*	2
9	Tear Strap Kit	1
10	Scuff Plate	1
11	Dowel Rod	1
12	Upholstered Footrest *(specify color)*	1
13	Footrest Guide	4
14	Staple	10
15	Bolt	4
16	Footrest Pad - *special (3.75 in. thick) [includes four glides (item #13)]*	1

Always Specify Model & Serial Number

Upholstery - Ritter
(Seamless)

Models: Serial Numbers:	***222*** *(-005 thru -010, -013, -014)* All	***223*** *(-005 thru -010, -013, -014)* All

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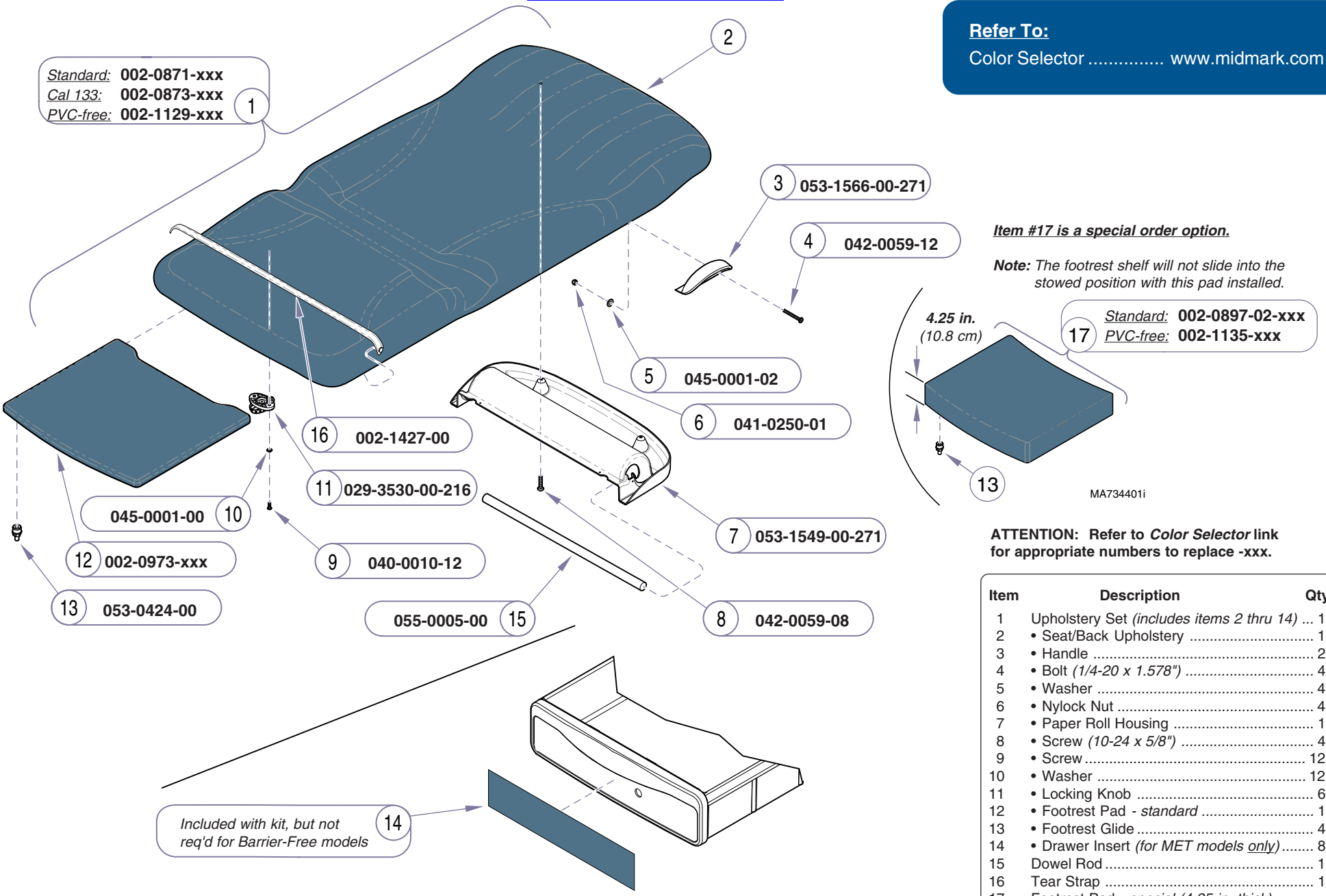
Refer To:
Color Selector ..... www.midmark.com



Item #17 is a special order option.

Note: *The footrest shelf will not slide into the stowed position with this pad installed.*

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set *(includes items 2 thru 14)*	1
2	• Seat/Back Upholstery	1
3	• Handle	2
4	• Bolt *(1/4-20 x 1.578")*	4
5	• Washer	4
6	• Nylock Nut	4
7	• Paper Roll Housing	1
8	• Screw *(10-24 x 5/8")*	4
9	• Screw	12
10	• Washer	12
11	• Locking Knob	6
12	• Footrest Pad - *standard*	1
13	• Footrest Glide	4
14	• Drawer Insert *(for MET models only)*	8
15	Dowel Rod	1
16	Tear Strap	1
17	Footrest Pad - *special (4.25 in. thick) [includes four glides (item #13)]*	1

Always Specify Model & Serial Number

Models:
Serial Numbers:

***222** (-015 thru -017)*
All

***223** (-015 & -016)*
All

Upholstery - Ritter
(Seamless)

E-7.1

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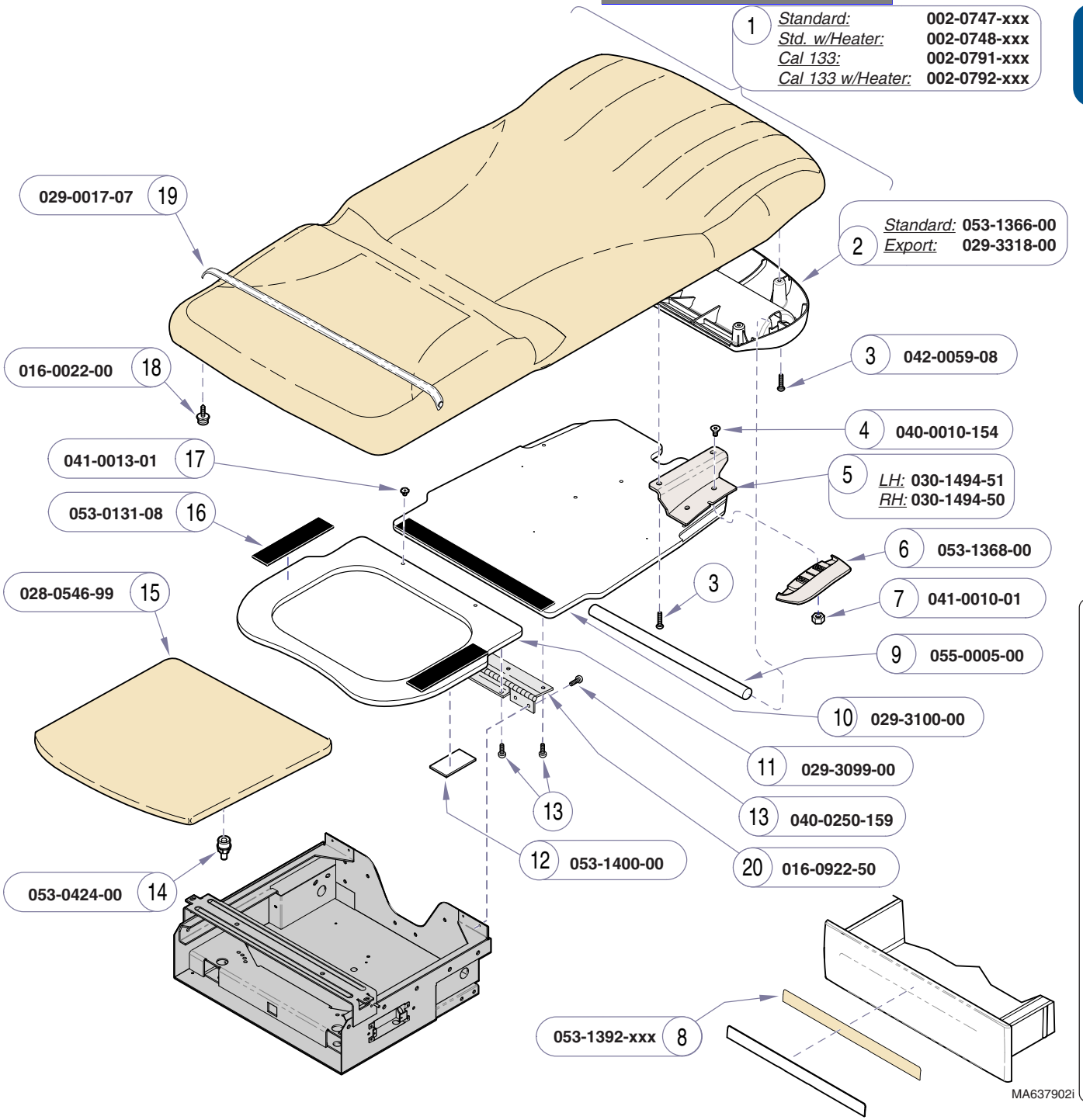

Refer To:
Color Selector ..... www.midmark.com

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set *(incl. items 2 thru 8)*	1
2	• Paper Roll Holder - *Export used on 622/623 (-003 & -004) only*	1
3	• Screw *(1/4 x 20 x .78")*	8
4	• Screw *(#10- 32 x .43")*	4
5	• Grip Handle Bracket *(LH shown)*	1
6	• Grip Handle	2
7	• Nut *(#10-32)*	4
8	• Vinyl Drawer Insert	1
9	Paper Roll Dowel Rod	2
10	Back Mounting Frame *(includes item 16)*	1
11	Seat Mounting Frame *(includes item 16)*	1
12	Scuff Plate	2
13	Screw	4
14	Footrest Guide	4
15	Upholstered Footrest *(specify color)*	1
16	Velcro Hook *(2" x 9")*	2
17	Nutsert	11
18	Stud	2
19	Tear Straps Kit *(includes two straps)*	1
20	Hinge	1

Always Specify Model & Serial Number

Upholstery - Midmark
(Premium)

Models:	***622 (-001 thru -006)***	***623 (-001 thru -006)***
Serial Numbers:	*All*	*All*

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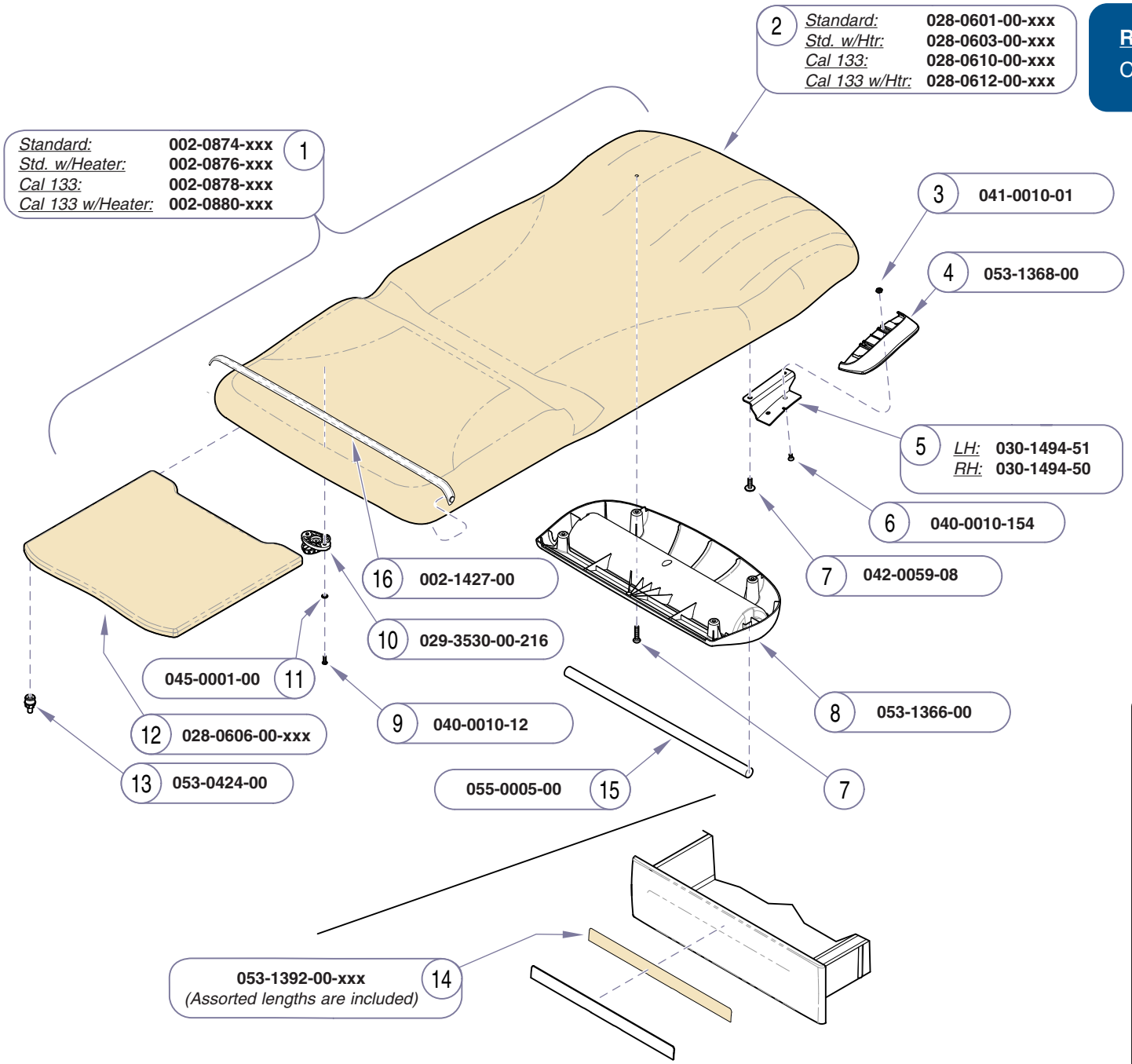
Go To Table Of Contents



Refer To:
Color Selector ..... www.midmark.com

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set *(includes items 2 thru 14)* ...	1
2	• Seat/Back Upholstery	1
3	• Nut	4
4	• Handle	2
5	• Handle Bracket	2
6	• Screw	4
7	• Screw *(10-24 x 5/8)*	8
8	• Paper Roll Housing	1
9	• Screw	12
10	• Locking Knob	6
11	• Washer	12
12	• Footrest Pad *(includes item 13- qty 4)*	1
13	• • Footrest Glide	4
14	• Vinyl Drawer Insert	6
15	Dowel Rod	1
16	Tear Strap	1

Always Specify Model & Serial Number

MA705700i

Models: Serial Numbers:

622 *(-007 & -008)*	***623*** *(-007 thru -011)*
All	*All*

Upholstery - Midmark
(Premium)

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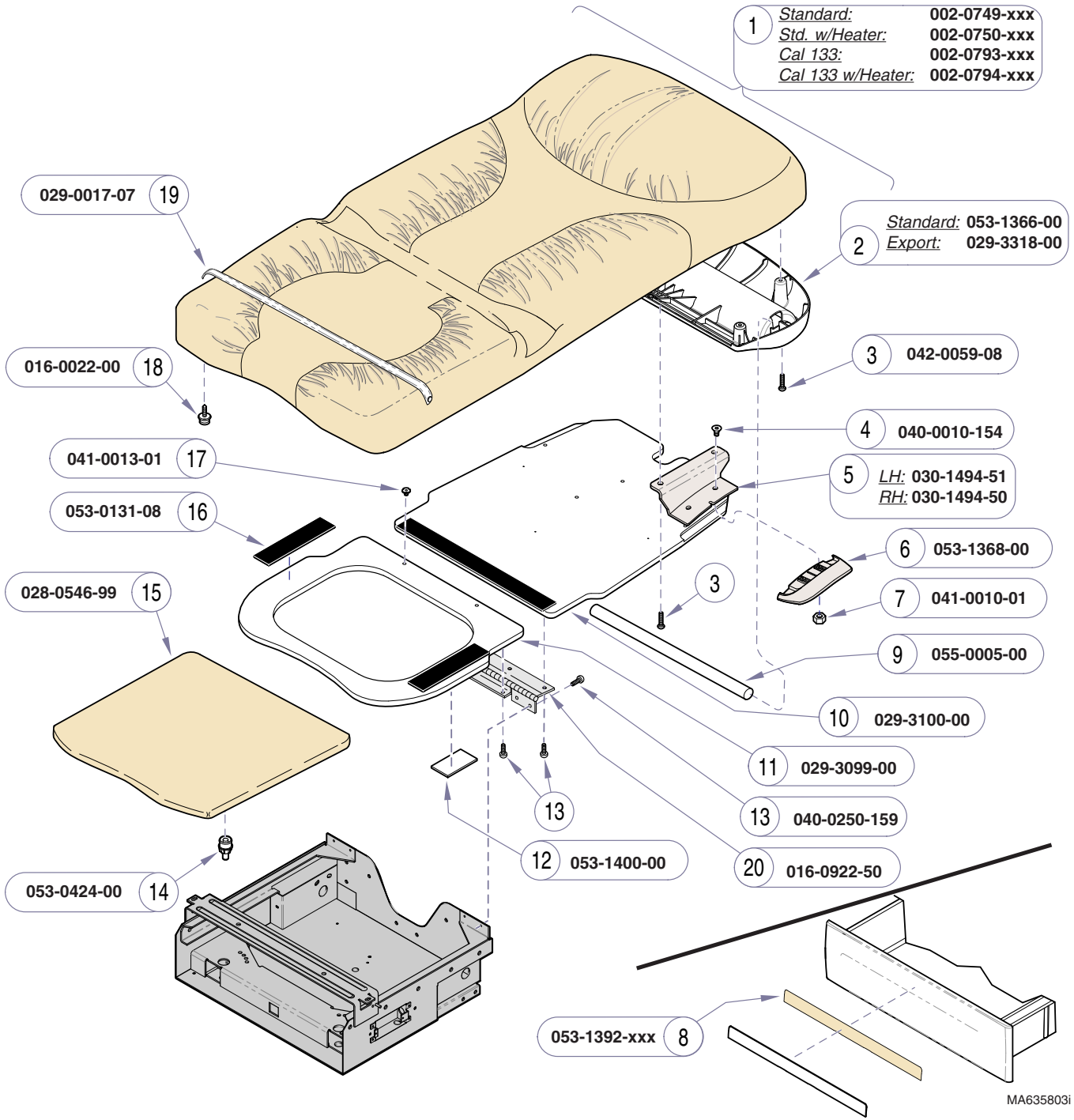

Refer To:
Color Selector ..... www.midmark.com

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set *(incl. items 2 thru 7)*	1
2	• Paper Roll Holder - *Export used on 622/623 (-003 & -004) only*	1
3	• Screw *(1/4 x 20 x .78")*	8
4	• Screw *(#10- 32 x .43")*	4
5	• Grip Handle Bracket *(LH shown)*	1
6	• Grip Handle	2
7	• Nut *(#10-32)*	4
8	• Vinyl Drawer Insert	1
9	Paper Roll Dowel Rod	2
10	Back Mounting Frame *(includes item 16)*	1
11	Seat Mounting Frame *(includes item 16)*	1
12	Scuff Plate	2
13	Screw	4
14	Footrest Guide	4
15	Upholstered Footrest *(specify color)*	1
16	Velcro Hook *(2" x 9")*	2
17	Nutsert	11
18	Stud	2
19	Tear Strap Kit *(includes two straps)*	1
20	Hinge	1

Always Specify Model & Serial Number

Upholstery - Midmark
(Ultra-Premium)

Models:	***622** (-001 thru -006)*	***623** (-001 thru -006)*
Serial Numbers:	*All*	*All*

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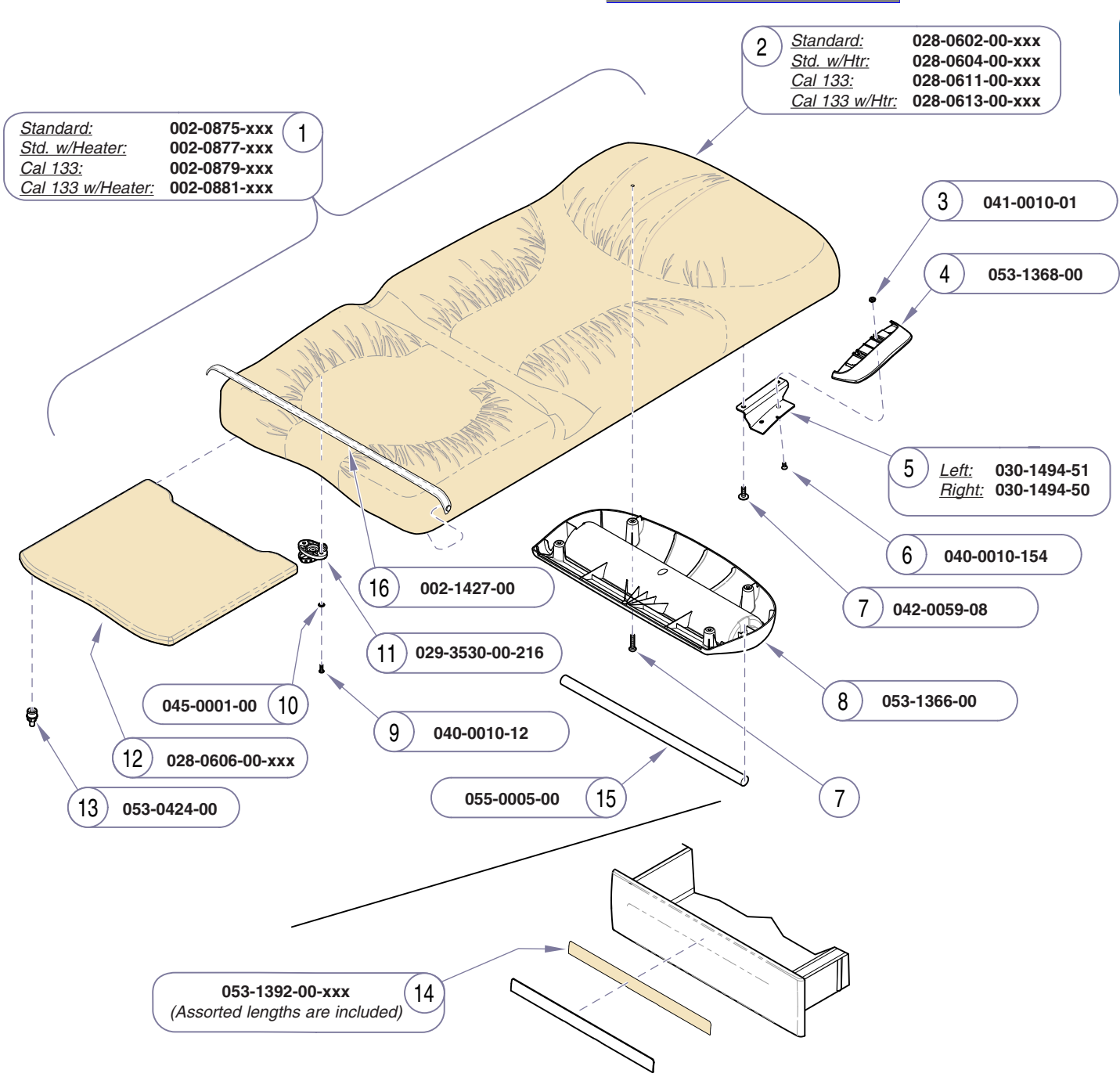

MA705800i

Refer To:
Color Selector ..... www.midmark.com

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set *(includes items 2 thru 14)*	1
2	• Seat/Back Upholstery	1
3	• Nut	4
4	• Handle	2
5	• Handle Bracket	2
6	• Screw	4
7	• Screw *(10-24 x 5/8)*	8
8	• Paper Roll Housing	1
9	• Screw	12
10	• Washer	12
11	• Locking Knob	6
12	• Footrest Pad *(includes item 13 - qty 4)*	1
13	• • Footrest Glide	4
14	• Vinyl Drawer Insert	6
15	Dowel Rod	1
16	Tear Strap	1

Always Specify Model & Serial Number

Models: Serial Numbers:

622 *(-007 & -008)*	***623*** *(-007 thru -011)*
All	*All*

Upholstery - Midmark
(Ultra-Premium)

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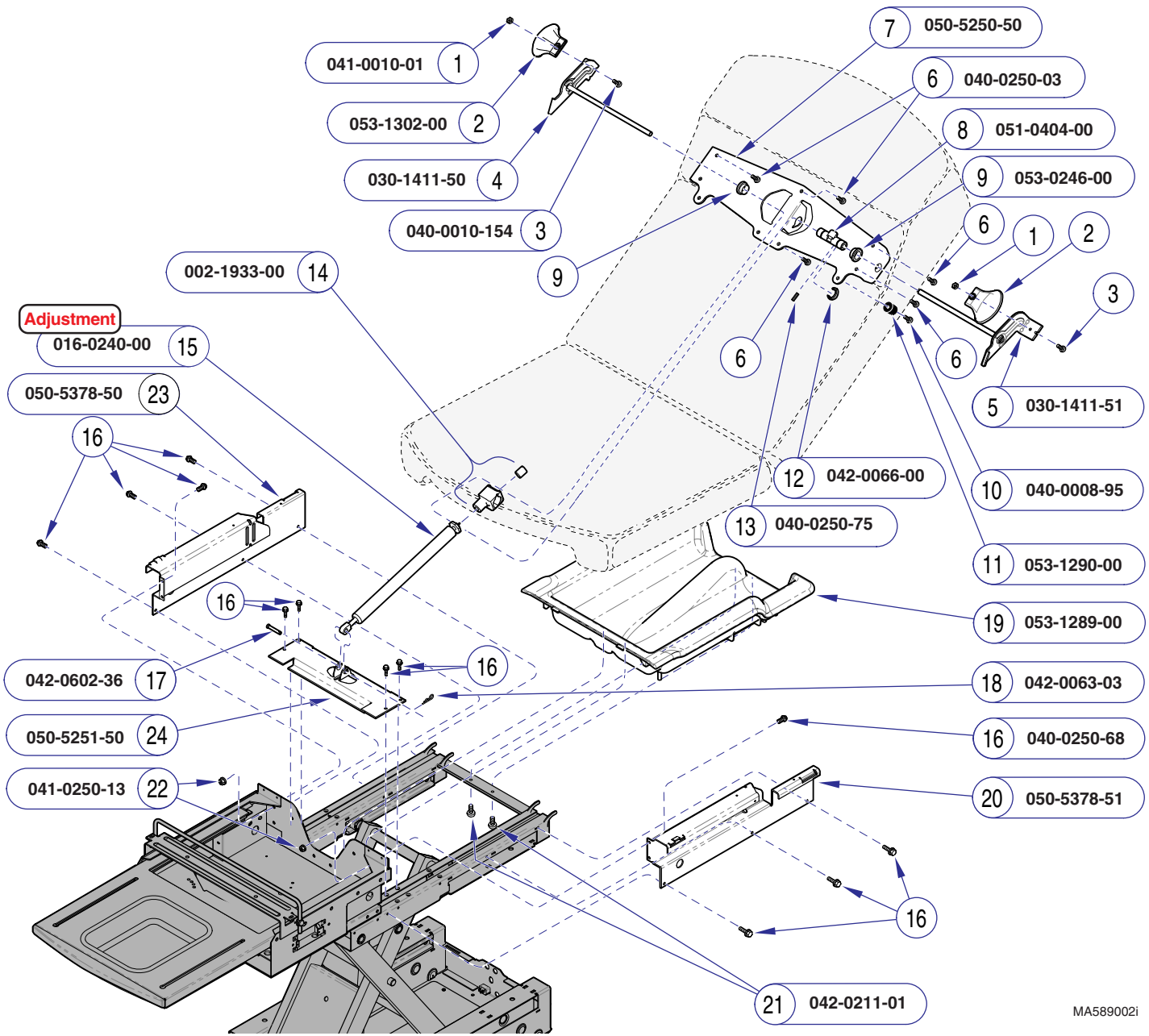
Refer To: Gas Cylinder Adjustment B-18

Go To Page:



Item	Description	Qty.
1	Nut	2
2	Actuator Release Handle	2
3	Screw *(10-32 x 7/16")*	1
4	R.H. Back Release Weldment	1
5	L.H. Back Release Weldment	1
6	Screw *(1/4-20 x 7/8")*	4
7	Release Support Yoke Back	1
8	Cam	1
9	Back Pivot Bearing	2
10	Wood Screw	2
11	Stem Bumper	2
12	Crescent Ring	2
13	Set Screw	2
14	Hi-lo Actuator Cap Kit	1
15	Gas Cylinder	1
16	Screw *(1/4-20 x Type F)*	16
17	Clevis Pin	1
18	Rue Ring	1
19	Top Cover	1
20	L.H. Side Support	1
21	Screw *(5mm x 20mm)*	7
22	Lock Nut	4
23	R.H. Side Support	1
24	Manual Back Release	1

Always Specify Model & Serial Number

Models:

Serial Numbers:	***222 (-001 thru -010)***		***622 (-001 & -002)***
	RG1000 thru RG1894	*RH1000 thru RH2131*	*SJ1000 thru SJ1008*
	RJ1000 thru RJ1419	*RK1000 thru RK3589*	*SK1000 thru SK1029*
	RL1000 thru RL1068	*RM1000 thru RM1028*	

Manual Back Components

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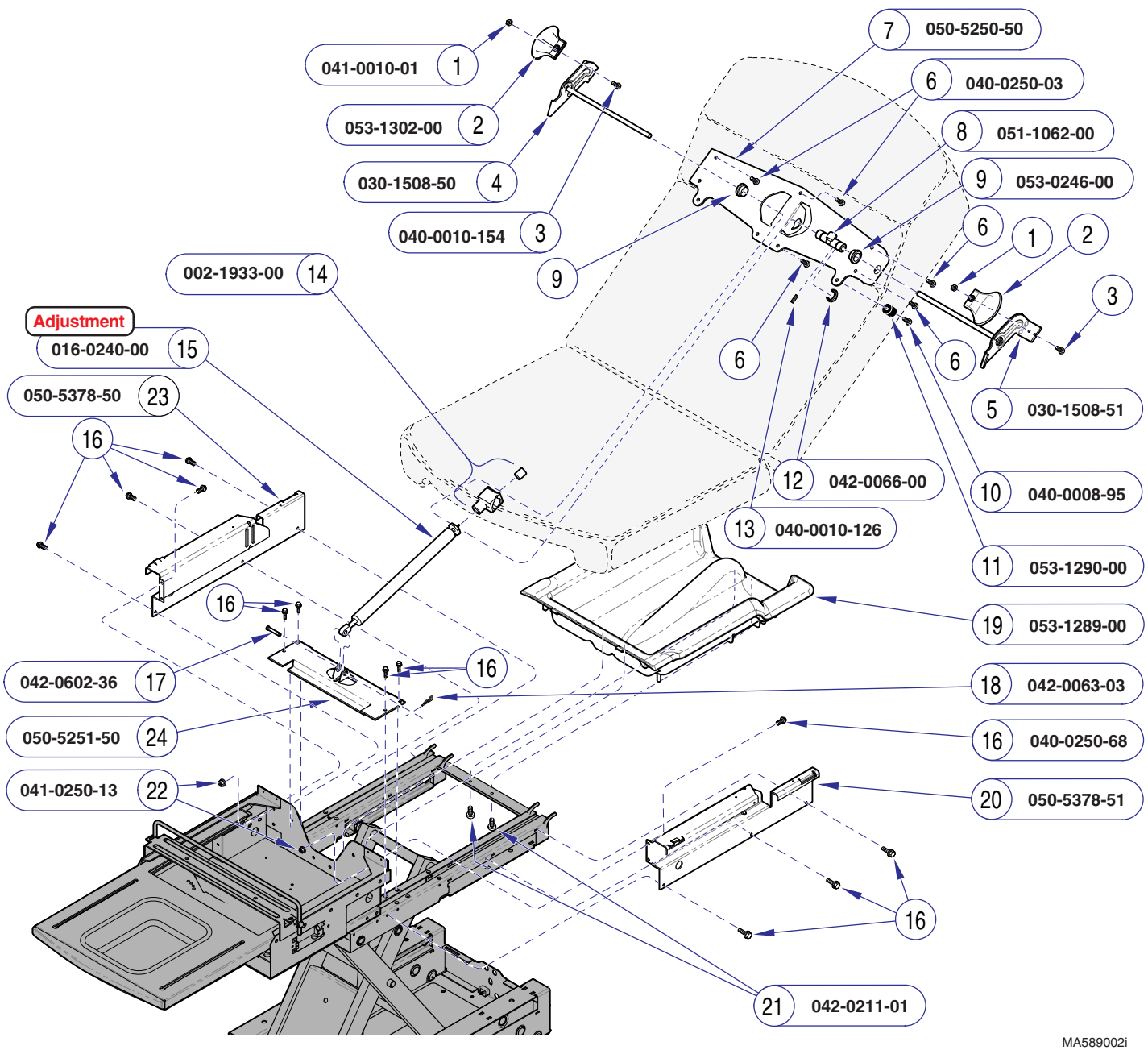
Refer To: Gas Cylinder Adjustment ..... **Go To Page:** B-18



Item	Description	Qty.
1	Nut	2
2	Actuator Release Handle	2
3	Screw *(10-32 x 7/16")*	1
4	R.H. Back Release Weldment	1
5	L.H. Back Release Weldment	1
6	Screw *(1/4-20 x 7/8")*	4
7	Release Support Yoke Back	1
8	Cam	1
9	Back Pivot Bearing	2
10	Wood Screw	2
11	Stem Bumper	2
12	Crescent Ring	2
13	Set Screw	2
14	Hi-lo Actuator Cap Kit	1
15	Gas Cylinder	1
16	Screw *(1/4-20 x Type F)*	16
17	Clevis Pin	1
18	Rue Ring	1
19	Top Cover	1
20	L.H. Side Support	1
21	Screw *(5mm x 20mm)*	3
22	Lock Nut	4
23	R.H. Side Support	1
24	Manual Back Release	1

Always Specify Model & Serial Number

Models:
Serial Numbers:

***222** (-001 thru -014)*
RG1895 thru present
RJ1420 thru present
RL1069 thru present
RH2132 thru present
RK3590 thru present
RM1029 thru present
V2200 thru V216996

***622** (-001 thru -006)*
SJ1009 thru present
SK1030 thru present
V2200 thru V216996

Manual Back Components

E-10.1

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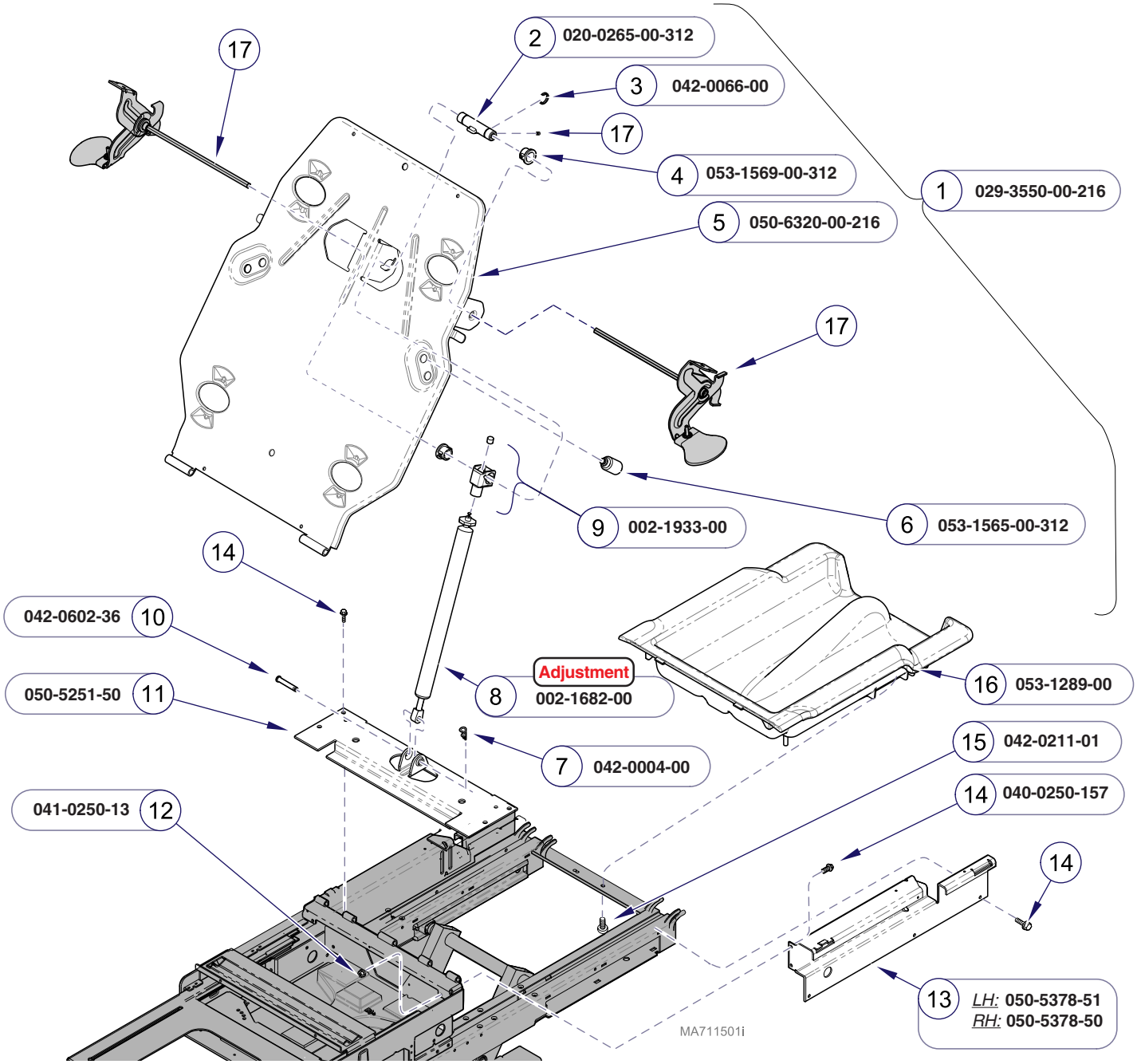

Refer To: Go To Page:
Gas Cylinder Adjustment B-18
Backrest Handles E-11

Item	Description	Qty.
1	Manual Back Assembly *(incl. items 2 thru 11)*	1
2	• Cam	1
3	• Crescent Ring	2
4	• Back Pivot Bearing	2
5	• Back Mounting Frame	1
6	• Back Rest Bumper	2
7	• Hitch Pin	1
8	• Gas Spring *(incl. item 17)*	1
9	• Hi-lo Actuator Cap Kit	1
10	• Clevis Pin	1
11	• Release Support Yoke	1
12	Lock Nut	4
13	Side Support *(LH shown)*	2
14	Screw *(1/4-20 x Type F)*	16
15	Screw *(5mm x 20mm)*	2
16	Top Cover	1
17	Refer to: *"Backrest Handles"*	Ref

Always Specify Model & Serial Number

Manual Back Components

Models: *Serial Numbers:*
222 *(-015 thru -017)* *V216996 thru V1401740*
622 *(-007 & -008)* *V216996 thru V1401740*

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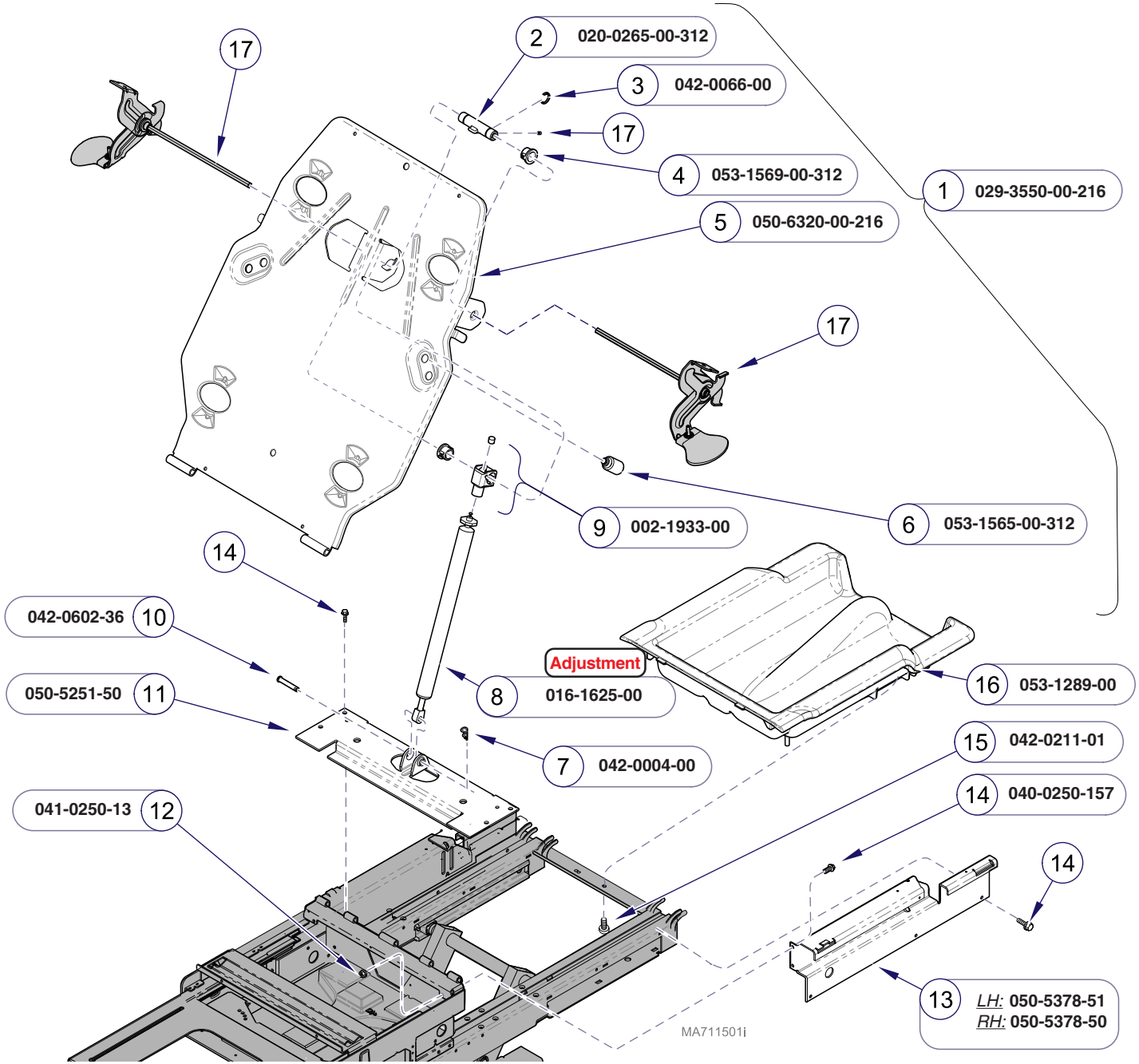

Refer To: **Go To Page:**

Gas Cylinder Adjustment B-18
Backrest Handles E-11

Item	Description	Qty.
1	Manual Back Assembly *(incl. items 2 thru 11)*	1
2	• Cam	1
3	• Crescent Ring	2
4	• Back Pivot Bearing	2
5	• Back Mounting Frame	1
6	• Back Rest Bumper	2
7	• Hitch Pin	1
8	• Gas Spring	1
9	• Hi-lo Actuator Cap Kit	1
10	• Clevis Pin	1
11	• Release Support Yoke	1
12	Lock Nut	4
13	Side Support *(LH shown)*	2
14	Screw *(1/4-20 x Type F)*	16
15	Screw *(5mm x 20mm)*	2
16	Top Cover	1
17	Refer to: *"Backrest Handles"*	Ref

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***222*** *(-015 thru -017)* *V1401741 thru present*	***622*** *(-007 & -008)* *V1401741 thru present*

Manual Back Components

E-10.3

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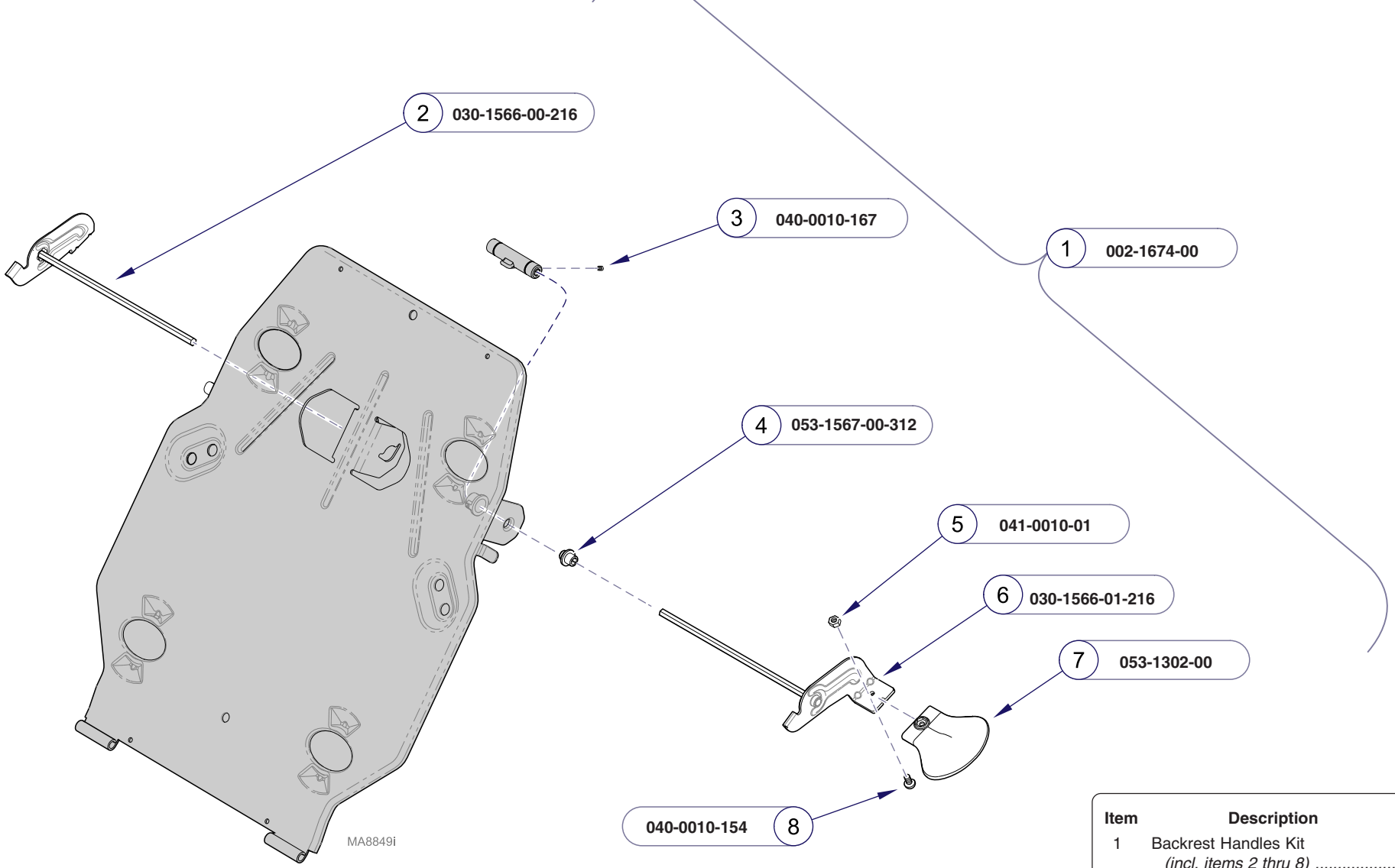

Item	Description	Qty.
1	Backrest Handles Kit *(incl. items 2 thru 8)*	1
2	• R.H. Back Release Weldment	1
3	• Set Screw	2
4	• Release Rod Bushing	2
5	• Nut *(#10-32)*	2
6	• L.H. Back Release Weldment	1
7	• Actuator Release Handle	2
8	• Screw *(#10-32 X 7/16 flat head phillips)*	2

Always Specify Model & Serial Number

Backrest Handles

Models: *Serial Numbers:*

222 *(-015 thru -017)* *V216996 thru present*

622 *(-007 & -008)* *V216996 thru present*

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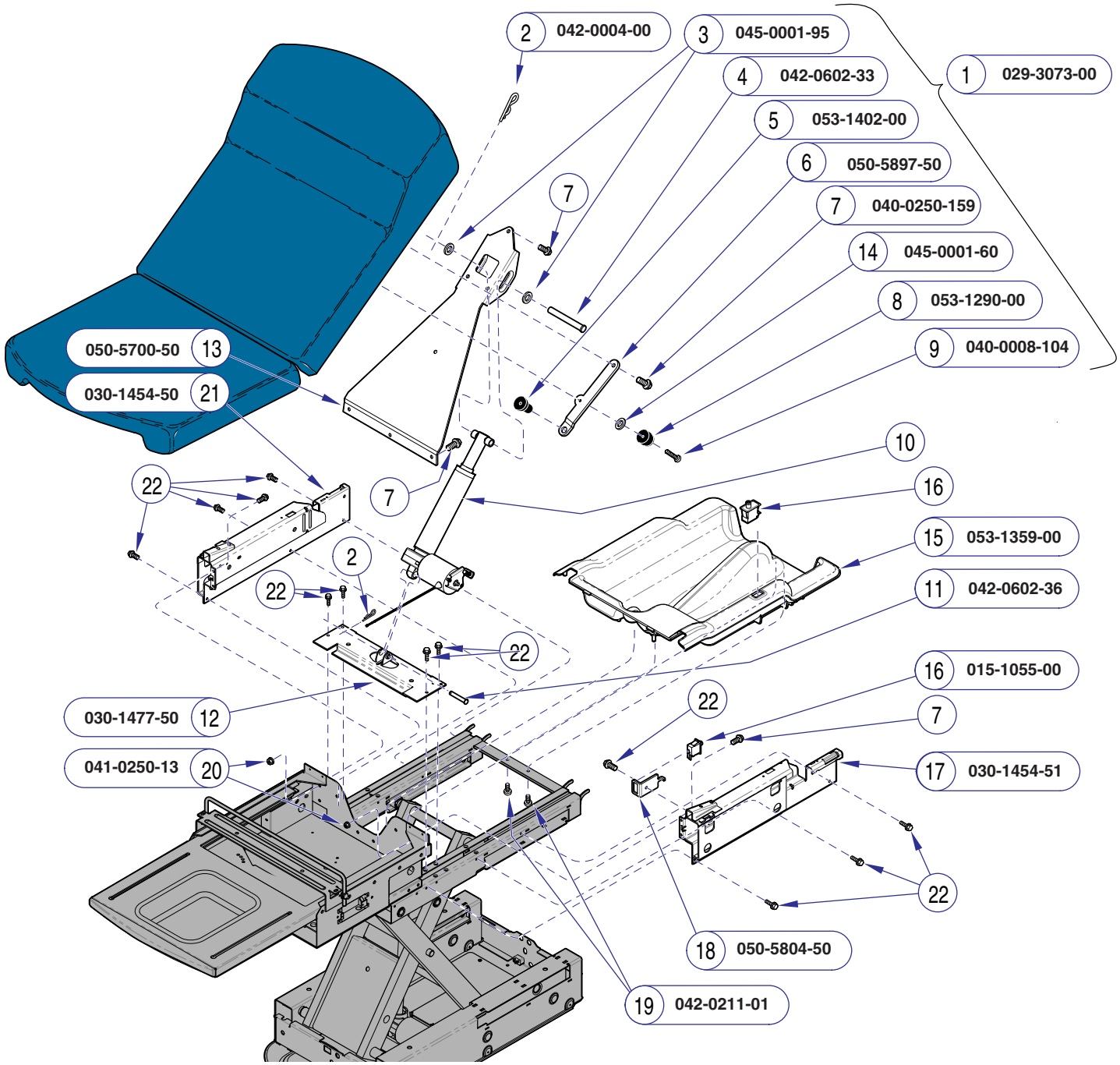

MA637000i

Refer To: **Go To Page:**
Back Actuator E-13*
** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Power Back Assembly *(includes items 2 thru 14)*	1
2	• Hitch Pin Clip	2
3	• Washer	2
4	• Clevis Pin	1
5	• Stem Bumper	1
6	• Limit Bumper Bracket *(leftside only)*	1
7	• Screw *(1/4-20 x .87")*	6
8	• Recess Bumper	3
9	• Screw *(#8 x 1")*	3
10	• Refer to: *"Back Actuator"*	Ref
11	• Clevis Pin	1
12	• Back Actuator Support	1
13	• Power Back Pivot Mount	1
14	• Spacer Washer *(right side only)*	1
15	Top Cover	1
16	Limit Switch	2
17	L.H. Side Support	1
18	Switch Bracket	1
19	Screw *(M5 x 20mm)*	3
20	Flange Nut *(1/4-20)*	4
21	R.H. Side Support	1
22	Screw *(1/4-20 x .5")*	19

Always Specify Model & Serial Number

Models: Serial Numbers:

223 *(-001 thru -014)*	***623*** *(-001 thru -006)*
All	*All*

Power Back Components

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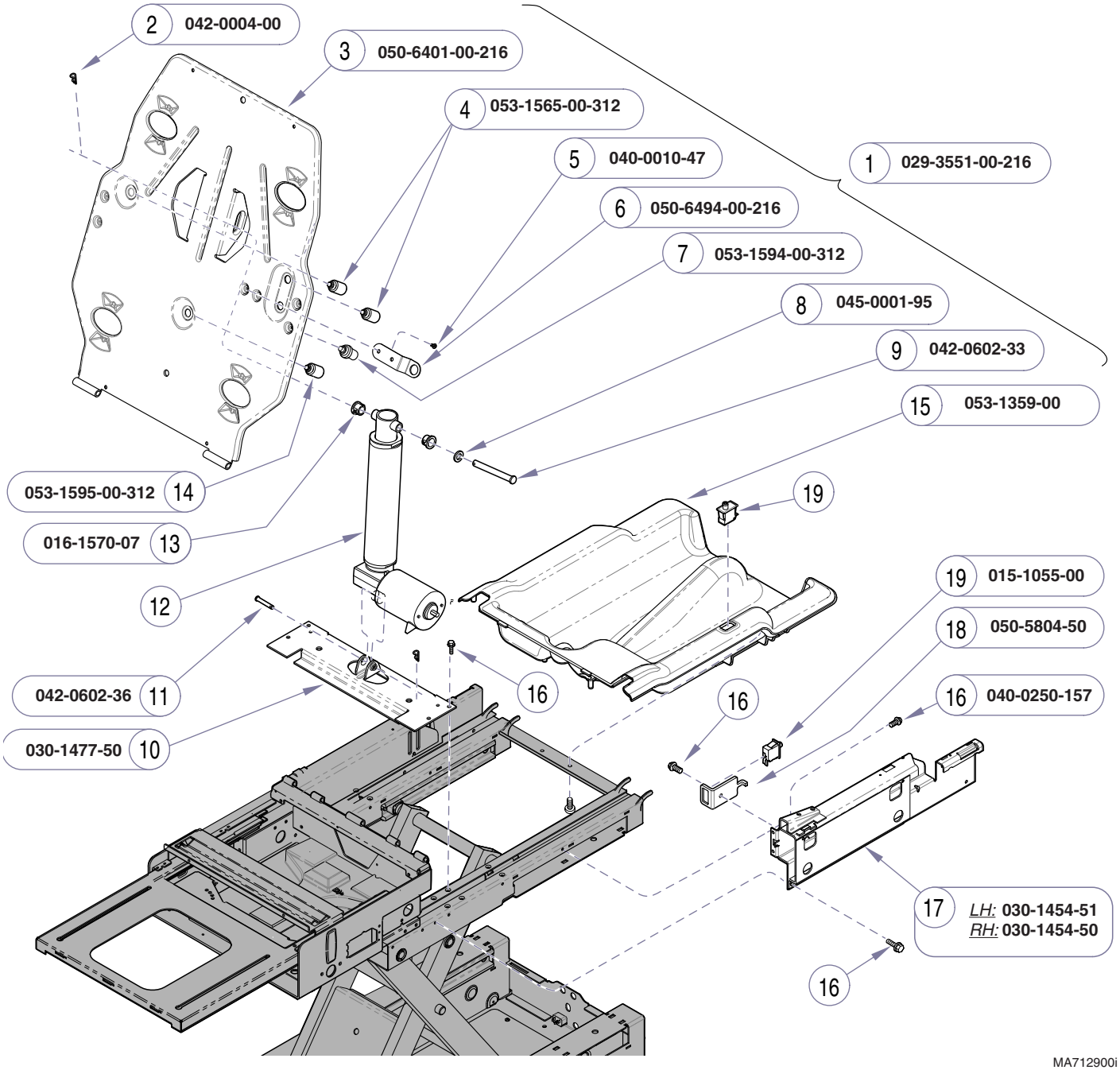

MA712900i

Refer To: Go To Page:
Back Actuator E-13*
** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Power Back Assembly *(includes items 2 thru 13)*	1
2	• Hitch Pin Clip	1
3	• Back Mounting Frame	1
4	• Back Rest Bumper	2
5	• Screw *(#10-24 x 3/8')*	2
6	• Limit Bumper Bracket *(leftside only)*	1
7	• Limit Switch Bumper	1
8	• Washer *(1/2')*	2
9	• Clevis Pin	1
10	• Back Actuator Support	1
11	• Clevis Pin	1
12	• Refer to: *"Back Actuator"*	Ref
13	• DP4 Bearing	2
14	• Actuator Stop Bumper	1
15	Top Cover	1
16	Screw *(1/4"-20 x .5")*	19
17	Side Support *(LH shown)*	2
18	Limit Switch Bracket	1
19	Limit Switch	2

Always Specify Model & Serial Number

Power Back Components

Models: *Serial Numbers:* | ***223*** *(-015 thru -016)* *All* | ***623*** *(-007 thru -011)* *All*

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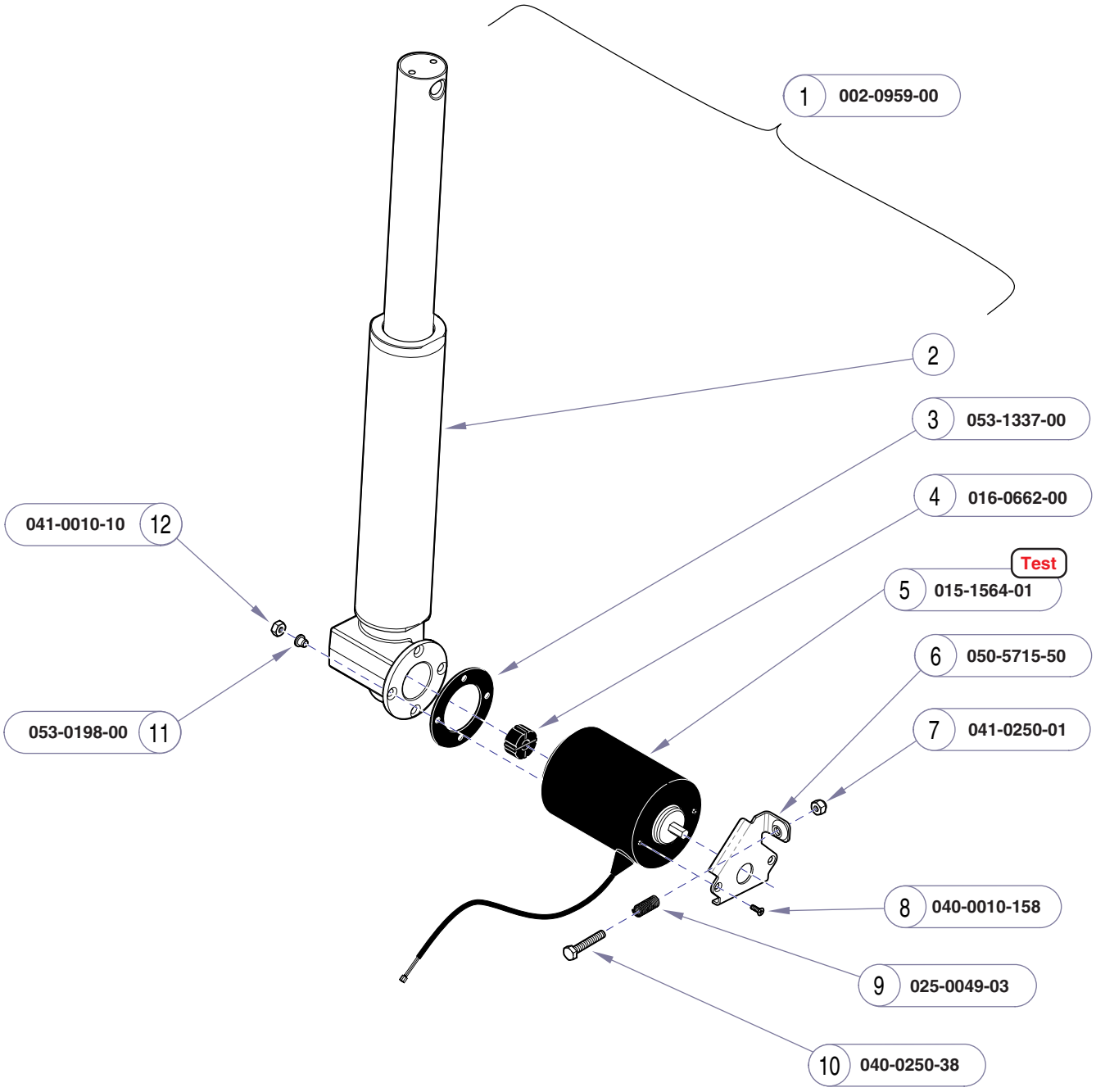
Refer To: **Go To Page:**
Actuator Motor Test B-12



MA624201i

Item	Description	Qty.
1	Back Actuator Assembly Kit *(includes items 1 thru 12)*	1
2	• Actuator *(not available seperately)*	Ref.
3	• Motor Insulater	1
4	• Motor Coupler	1
5	• Actuator Motor	1
6	• Motor Bracket	1
7	• Nut *(1/4"-20)*	1
8	• Screw *(#10 x 32 x .25")*	2
9	• Compression Spring	1
10	• Screw *(1/4" -20 x .5")*	1
11	• Shoulder Washer	2
12	• Nut *(#10-32)*	2

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***223 (all)*** *All*	***623 (all)*** *All*

Back Actuator

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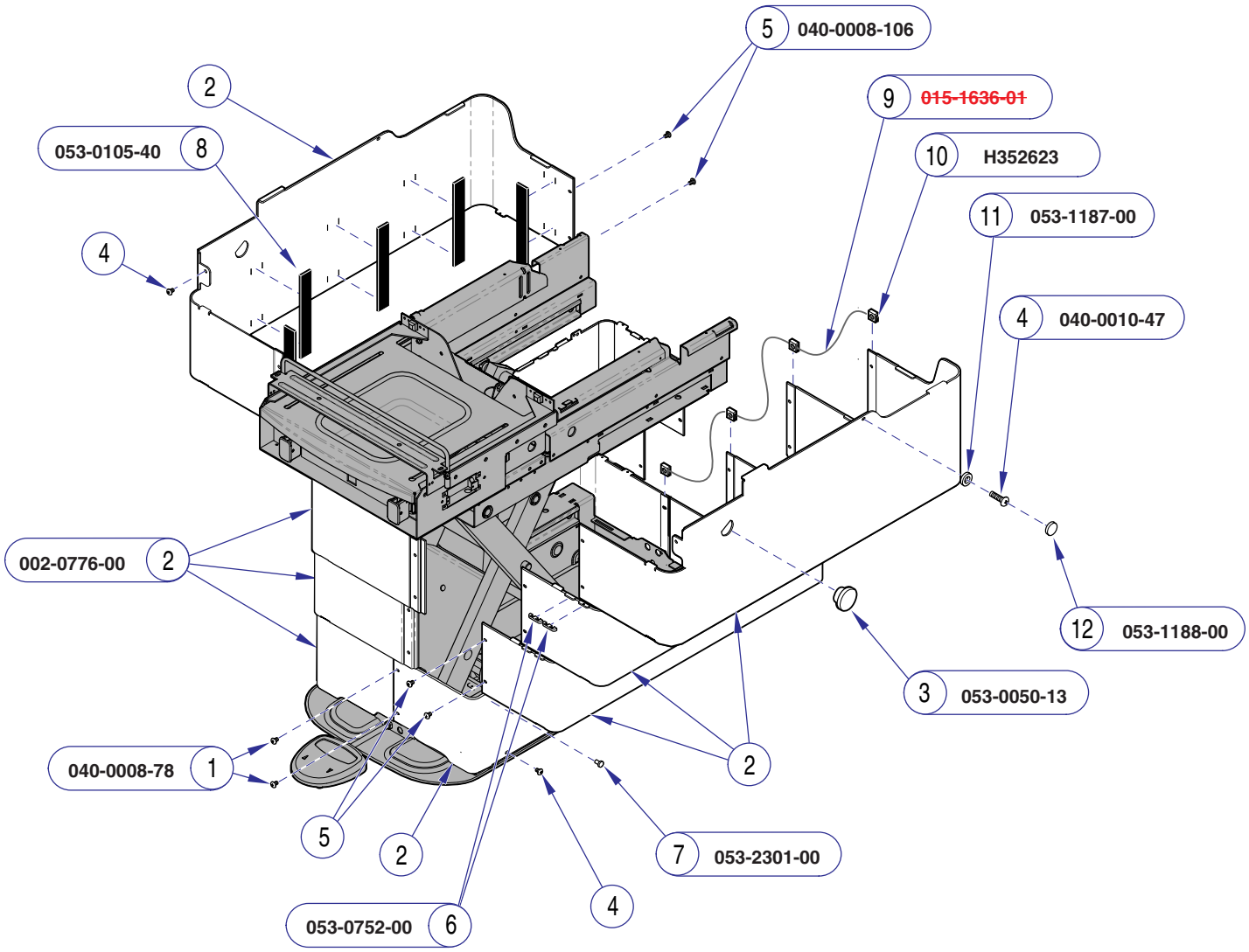

MA588806i

NOTE:
Shroud assemblies are only available as a complete set for the serial numbers listed on this page.

Item	Description	Qty.
1	Screw	12
2	Shroud Assembly *(See note above)*	1
3	Hole Plug	2
4	Screw *(10-24 x 3/8")*	10
5	Screw *(10-24 x 3/8")*	12
6	Snap-on Guide	36
7	Stem Bumper	32
8	Velcro Loop *(1" x 7")*	6
9	Braided Ground Wire	1
10	Tinnerman Clip	3
11	Screw Cover Base	2
12	Screw Cover	2

Always Specify Model & Serial Number

Models: ***222 (-001 thru -010)***

Serial Numbers:

RG1000 thru RG1530
RJ1000 thru RJ1312
RK1000 thru RK2334
RM1000 thru RM1015
RH1000 thru RH1820
RH1831 & RH1832
RL1000 thru RL1060

Table Shrouds
(Ritter models)

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Rev. 1/31/14

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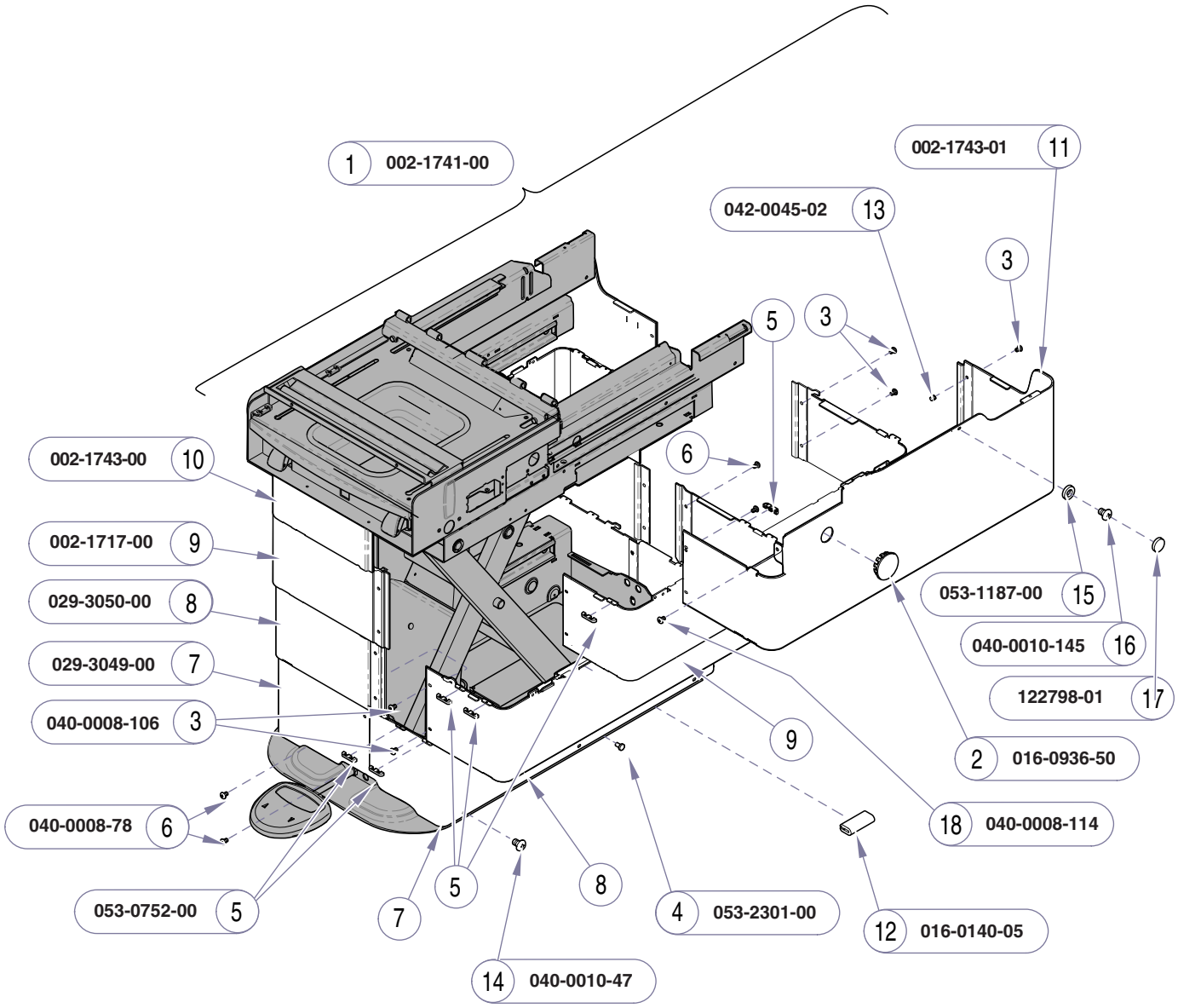

MA715700i

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 through 14)*	1
2	• Hole Plug	2
3	• Screw *(#8-32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12, & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, & 13)*	2
10	• R.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
11	• L.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 3/8")*	6
15	Screw Cover Base	2
16	Screw *(10-24 x 3/8")*	2
17	Screw Cover	2
18	Screw *(#8-32 x 3/8")*	2

Always Specify Model & Serial Number

Models:
Serial Numbers:

222 (all)

RG1531 thru present
RJ1313 thru present
RK2335 thru present
RM1016 thru present
RH1821 thru RH1830
RH1833 thru present
RL1061 thru present
V2200 thru V761999

223 (all)

SC-prefixes (all)
SD-prefixes (all)
SE-prefixes (all)
SF-prefixes (all)
SG-prefixes (all)
SH-prefixes (all)
V2200 thru V761999

Table Shrouds
(*Ritter models*)

E-14.1

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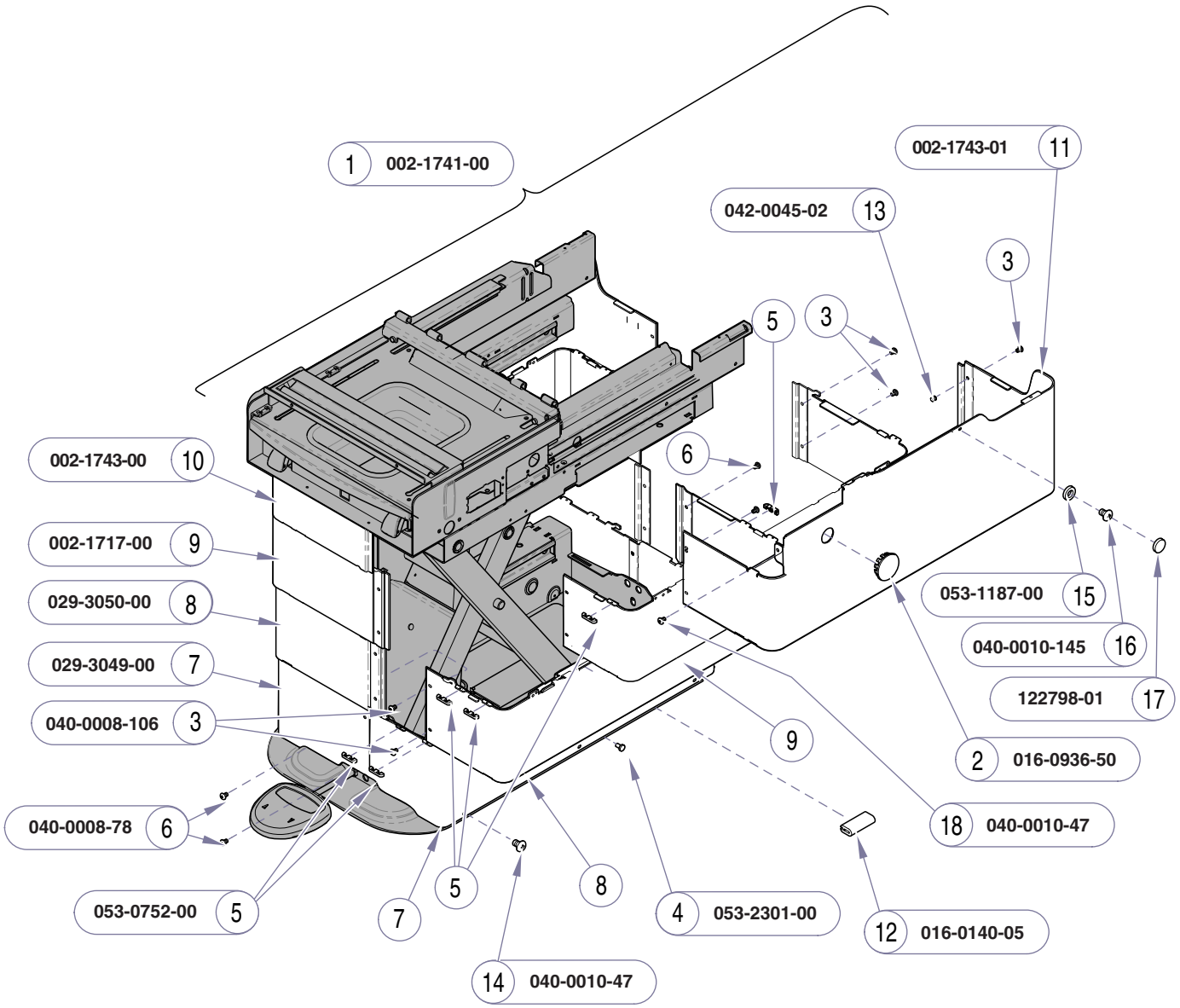

MA715700i

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 through 14)*	1
2	• Hole Plug	2
3	• Screw *(#8-32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12, & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, & 13)*	2
10	• R.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
11	• L.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 3/8")*	6
15	Screw Cover Base	2
16	Screw *(10-24 x 3/8")*	2
17	Screw Cover	2
18	Screw *(#10-24 x 3/8")*	2

Always Specify Model & Serial Number

Table Shrouds
(*Ritter models*)

Models: Serial Numbers:	***222 (all)*** *V762688 thru V1077078*	***223 (all)*** *V762688 thru V1077078*

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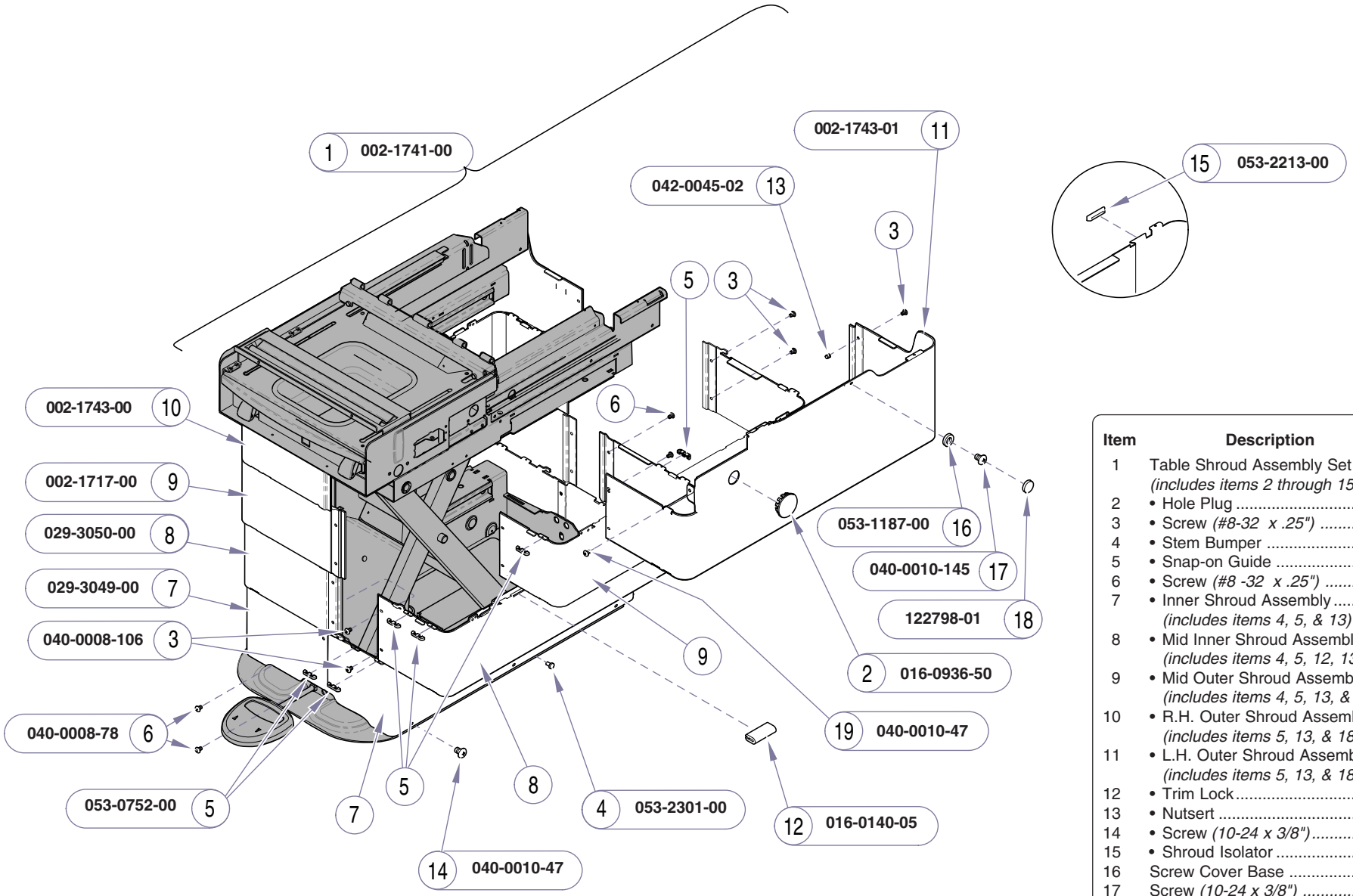

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 through 15)*	1
2	• Hole Plug	2
3	• Screw *(#8-32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12, 13, & 15)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, 13, & 15)*	2
10	• R.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
11	• L.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 3/8")*	6
15	• Shroud Isolator	4
16	Screw Cover Base	2
17	Screw *(10-24 x 3/8")*	2
18	Screw Cover	2
19	Screw *(#10-24 x 3/8")*	2

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***222 (all)*** *V1077079 thru V1089389*	***223 (all)*** *V1077079 thru V1089389*

Table Shrouds
(Ritter models)

E-14.3

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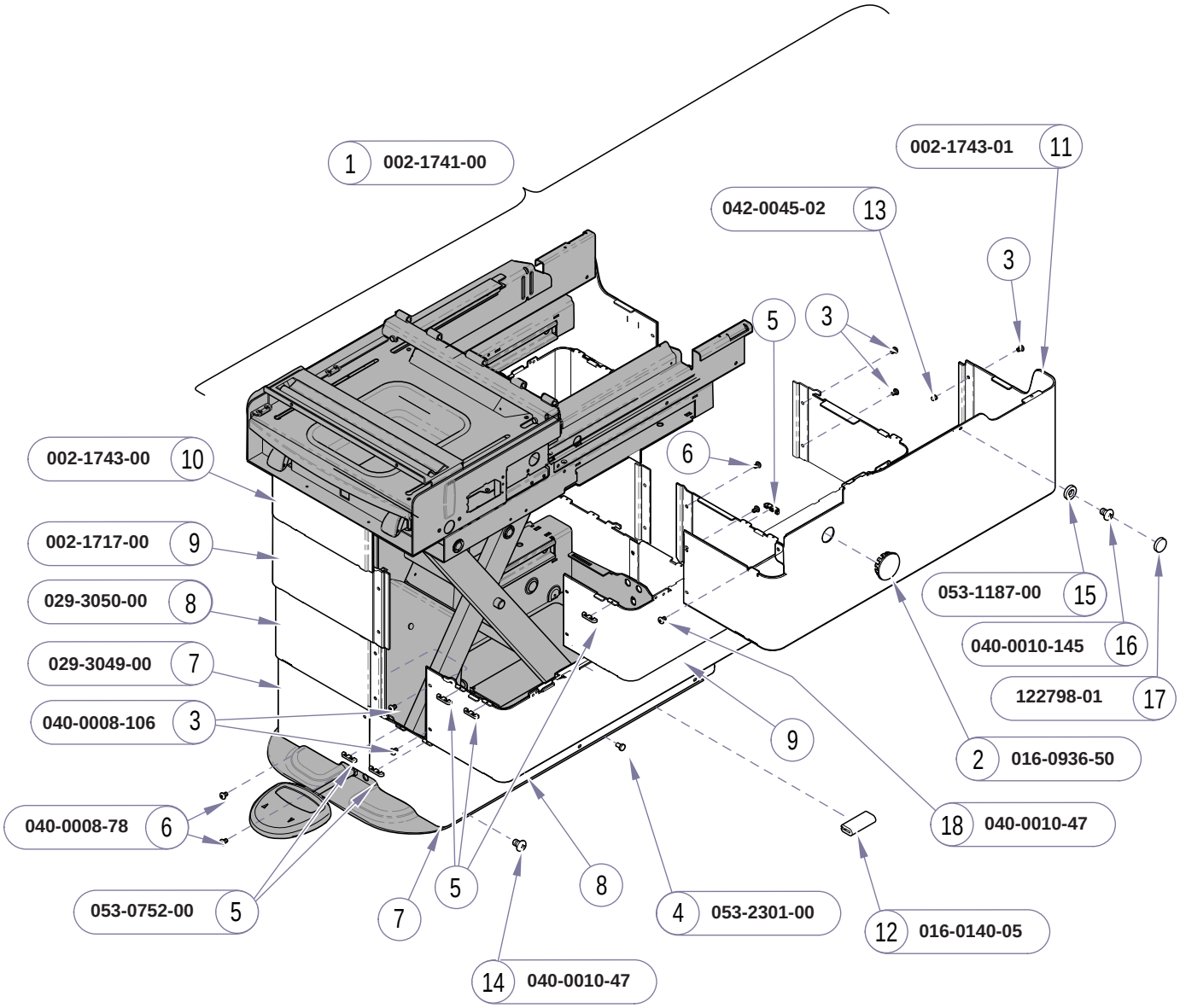

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 through 14)*	1
2	• Hole Plug	2
3	• Screw *(#8-32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12, & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, & 13)*	2
10	• R.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
11	• L.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 3/8")*	6
15	Screw Cover Base	2
16	Screw *(10-24 x 3/8")*	2
17	Screw Cover	2
18	Screw *(#10-24 x 3/8")*	2

Always Specify Model & Serial Number

Table Shrouds
(Ritter models)

Models:	***222 (all)***	***223 (all)***
Serial Numbers:	*V1089390 - V1531182*	*V1089390 - V1531182*

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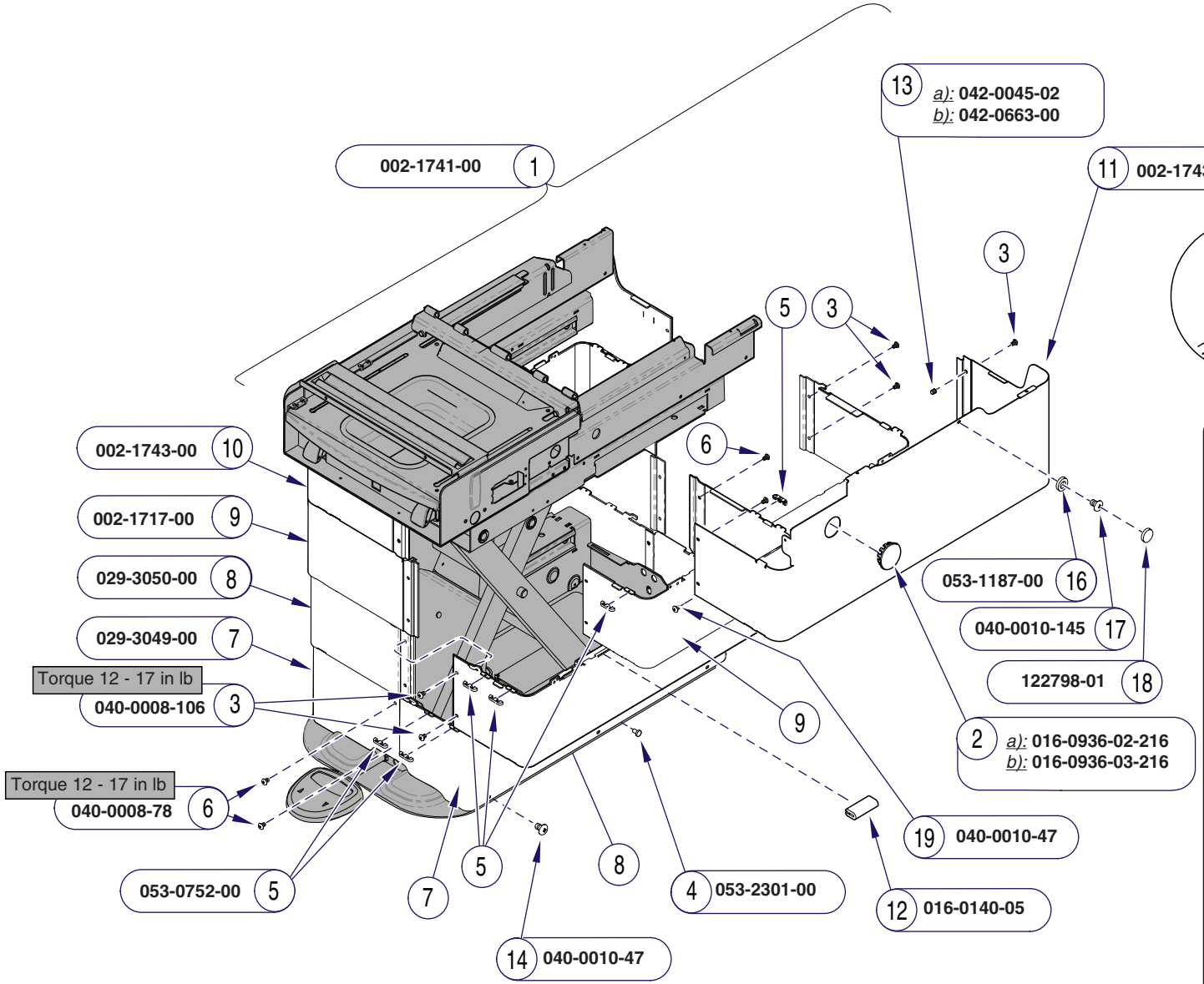

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 through 15)*	1
2	• a) Hole Plug *w/o hole*	2
	• b) Hole Plug *w/ hole*	2
3	• Screw *(#8-32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12, 13, & 15)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, 13, & 15)*	2
10	• R.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
11	• L.H. Outer Shroud Assembly *(includes items 5, 13, & 18)*	1
12	• Trim Lock	4
13	• a) Nutsert *(Round)*	18
	• b) Nutsert *(Hex)*	18
14	• Screw *(10-24 x 3/8")*	6
15	• Shroud Isolator	8
16	Screw Cover Base	2
17	Screw *(10-24 x 3/8")*	2
18	Screw Cover	2
19	Screw *(#10-24 x 3/8")*	2

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***222 (all)*** *V1531183 - present*	***223 (all)*** *V1531183 - present*

Table Shrouds (*Ritter models*)

E-14.5

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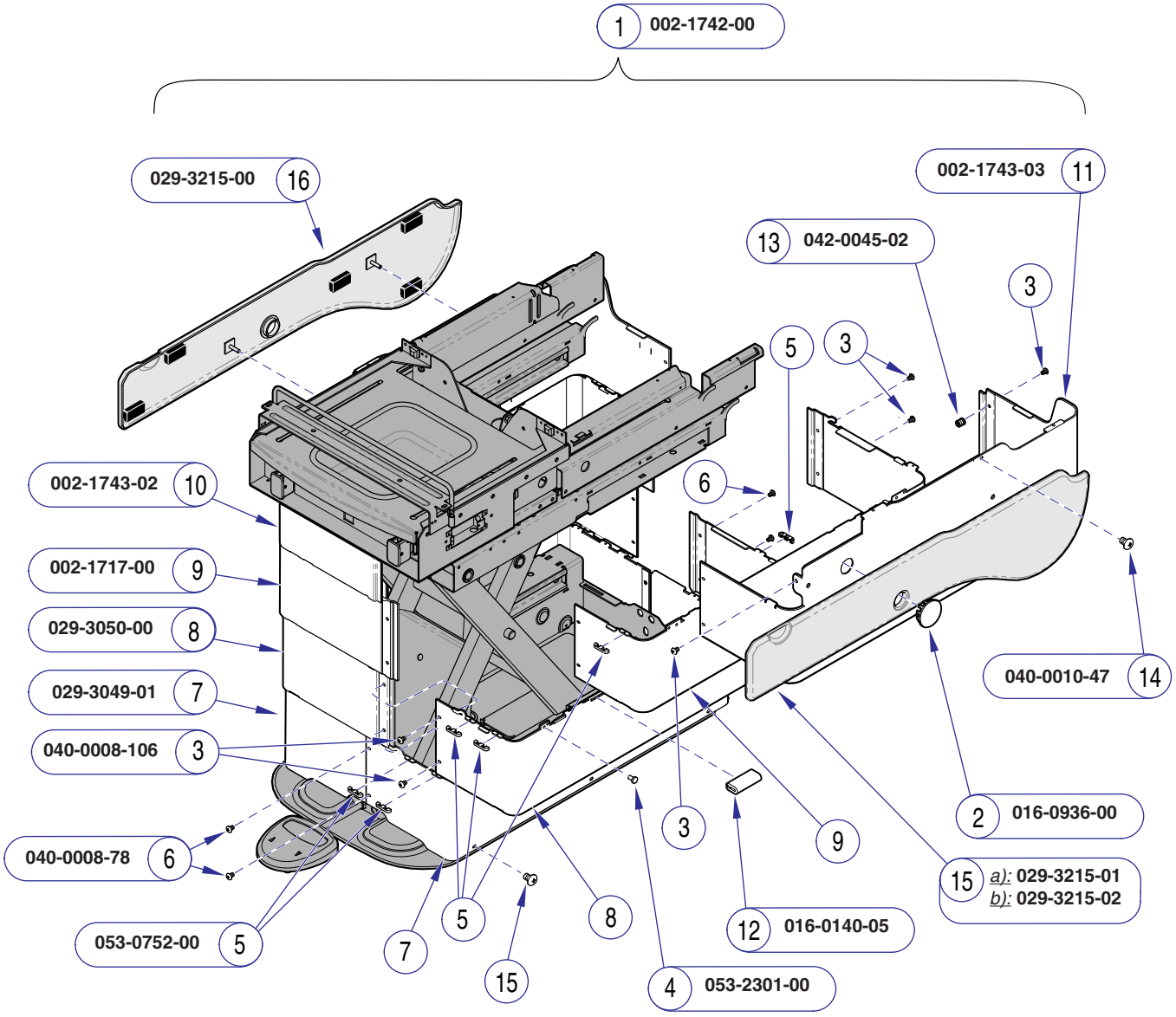

MA637804i

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 thru 13)*	1
2	• Hole Plug	2
3	• Screw *(#8 -32 x .25")*	12
4	• Stem Bumper	32
5	• Snap-on Guide	36
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12 & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items, 4, 5, 13, & 14)*	2
10	• R.H. Outer Shroud Assembly *(includes items, 3, & 13)*	1
11	• L.H. Outer Shroud Assembly *(includes items, 3, &13)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	Screw *(10-24 x 1/2")*	10
15	LH Cladding Assembly:	
	a) *w/ receptacle cutout*	1
	b) *w/o receptacle cutout*	1
16	R.H. Cladding Assembly	1

Always Specify Model & Serial Number

Table Shrouds
(Midmark models)

Models: *Serial Numbers:*	***622*** *(-001 thru -006)* *All*	***623*** *(-001 thru -006)* *All*

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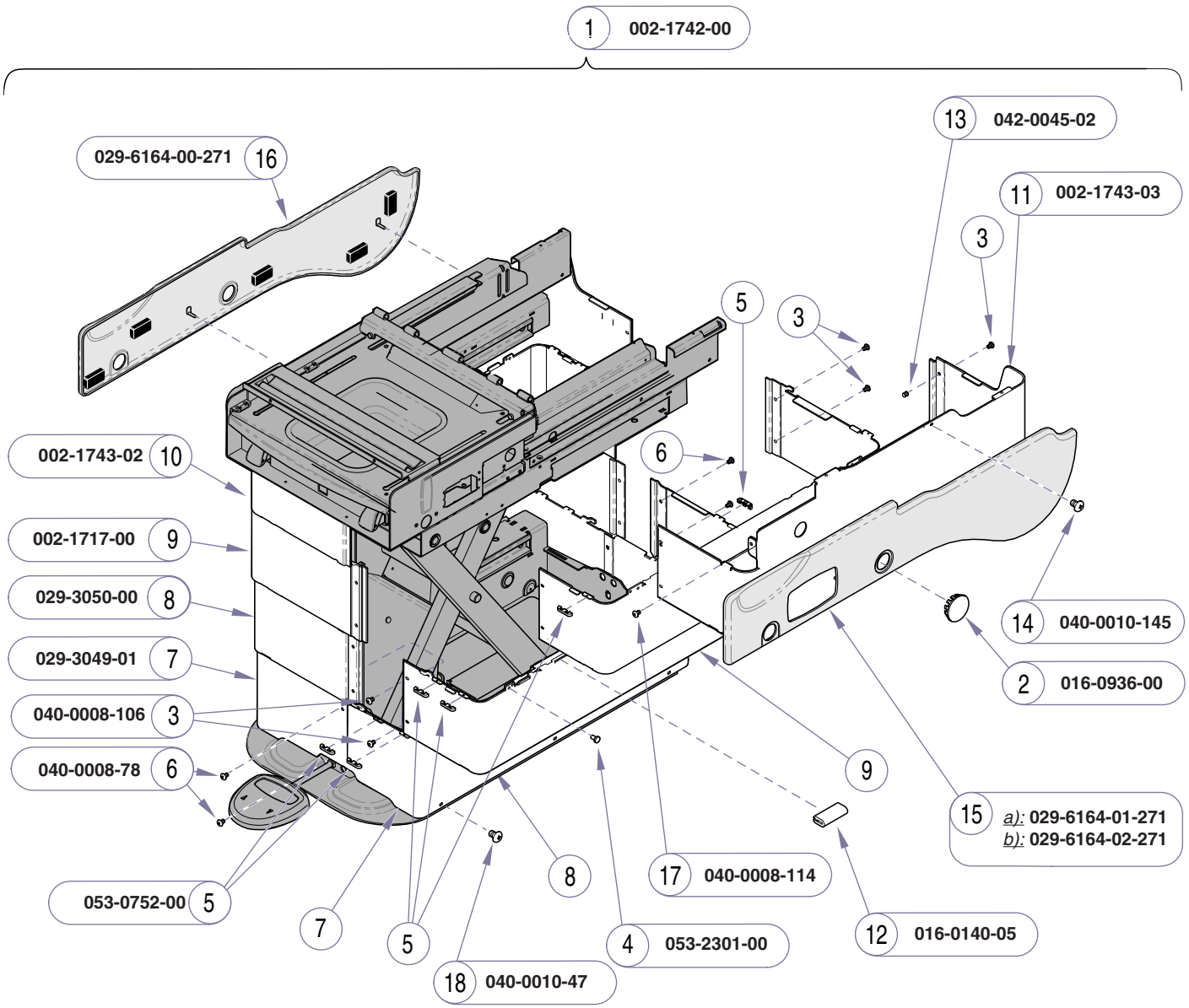

MA715800i

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 thru 14)*	1
2	• Hole Plug	4
3	• Screw *(#8 -32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12 & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, & 13)*	2
10	• R.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 17)*	1
11	• L.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 17)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 1/2")*	2
15	LH Cladding Assembly:	
	a) *w/ receptacle cutout*	1
	b) *w/o receptacle cutout*	1
16	R.H. Cladding Assembly	1
17	Screw *(#8-32 x 3/8")*	2
18	Screw	6

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***622*** *(-007 & -008)* *V216996 thru V761999*	***623*** *(-007 thru -010)* *V216996 thru V761999*

Table Shrouds (*Midmark models*)

E-15.1

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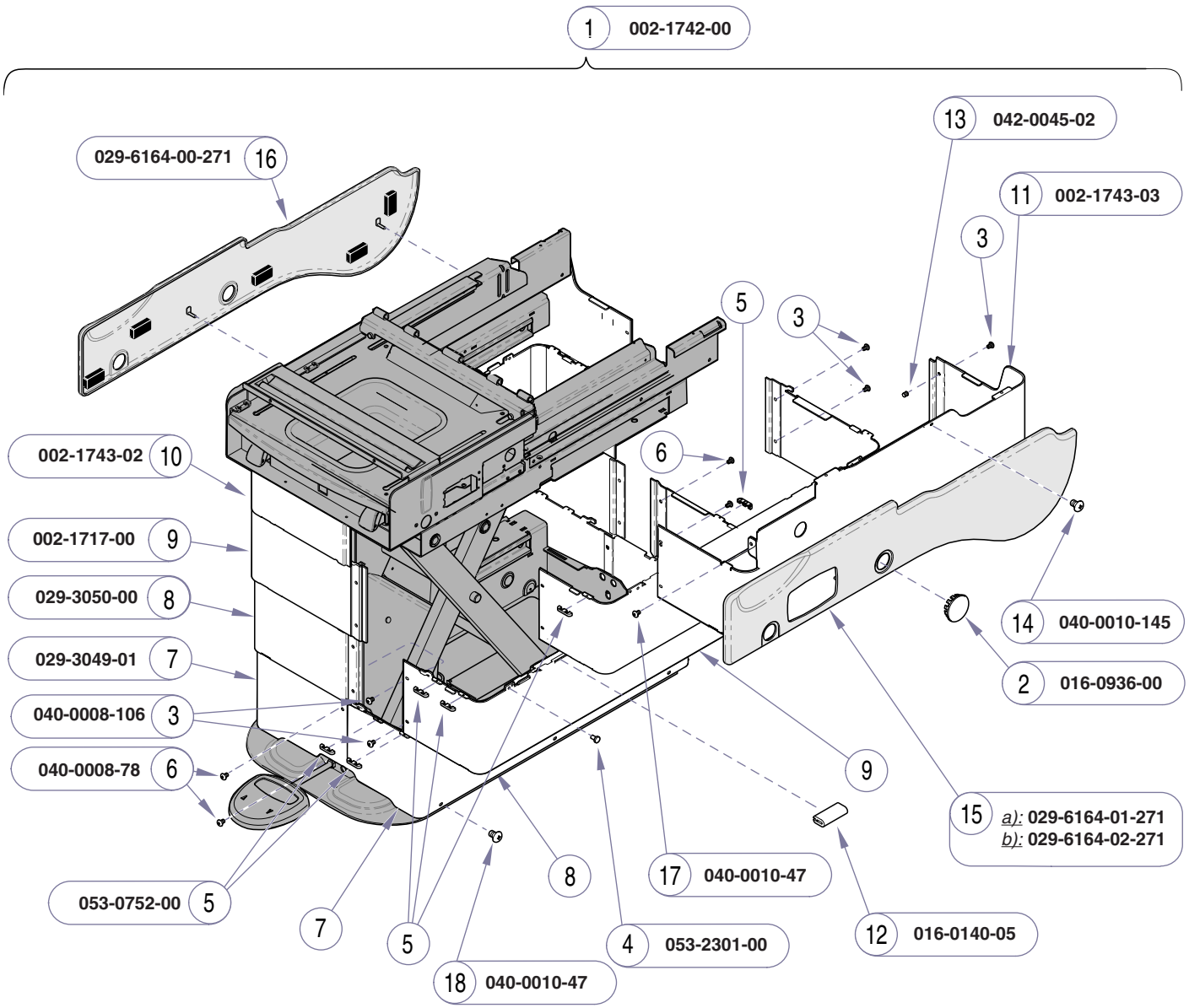

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 thru 14)*	1
2	• Hole Plug	4
3	• Screw *(#8 -32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12 & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, & 13)*	2
10	• R.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 17)*	1
11	• L.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 17)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 1/2")*	2
15	LH Cladding Assembly:	
	a) *w/ receptacle cutout*	1
	b) *w/o receptacle cutout*	1
16	R.H. Cladding Assembly	1
17	Screw *(#10-24 x 3/8")*	2
18	Screw	6

Always Specify Model & Serial Number

E-15.2

Table Shrouds
(*Midmark models*)

Models:
Serial Numbers:

***622** (-007 & -008)*
V762688 thru V1077078

***623** (-007 thru -010)*
V762688 thru V1077078

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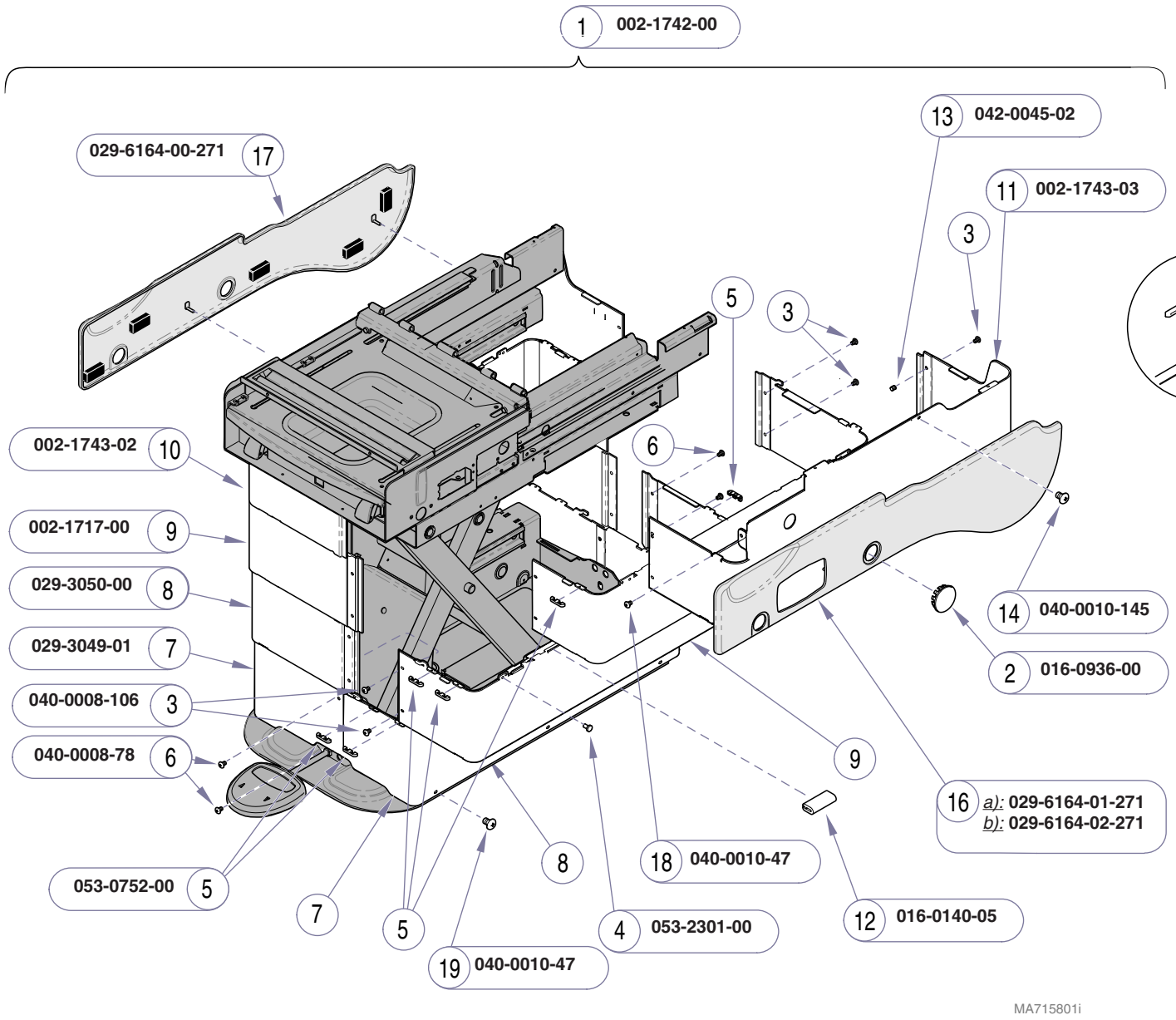

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 thru 15)*	1
2	• Hole Plug	4
3	• Screw *(#8 -32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12, 13, & 15)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, 13, & 15)*	2
10	• R.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 18)*	1
11	• L.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 18)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 1/2")*	2
15	• Shroud Isolator	4
16	LH Cladding Assembly:	
	a) *w/ receptacle cutout*	1
	b) *w/o receptacle cutout*	1
17	R.H. Cladding Assembly	1
18	Screw *(#10-24 x 3/8")*	2
19	Screw	6

Always Specify Model & Serial Number

Models: *Serial Numbers:*

***622** (-007 & -008)*	***623** (-007 thru -010)*
V1077079 thru V1089389	*V1077079 thru V1089389*

Table Shrouds (*Midmark models*)

E-15.3

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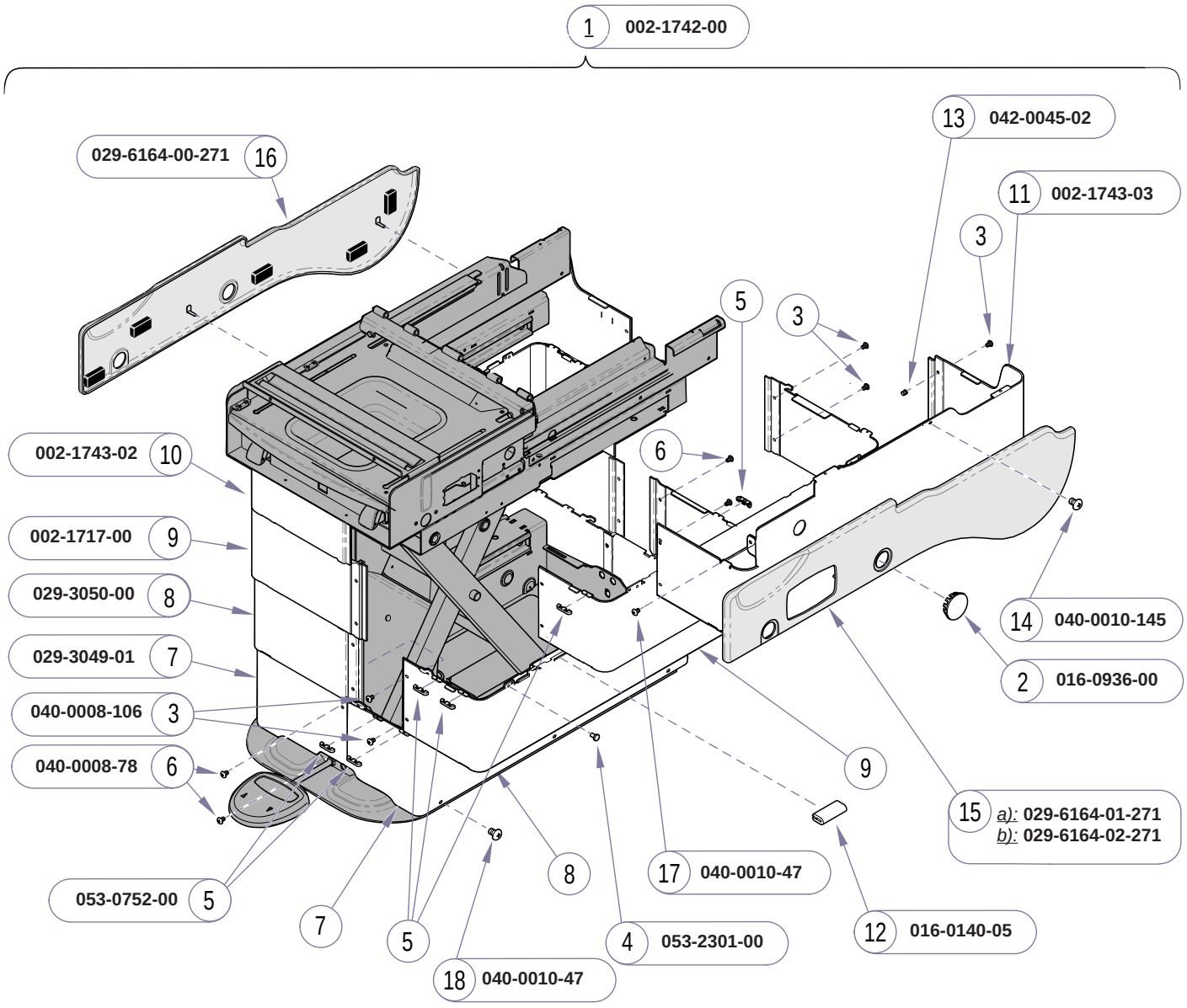

Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 thru 14)*	1
2	• Hole Plug	4
3	• Screw *(#8 -32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12 & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, & 13)*	2
10	• R.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 17)*	1
11	• L.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 17)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 1/2")*	2
15	LH Cladding Assembly:	
	a) *w/ receptacle cutout*	1
	b) *w/o receptacle cutout*	1
16	R.H. Cladding Assembly	1
17	Screw *(#10-24 x 3/8")*	2
18	Screw	6

Always Specify Model & Serial Number

Models: *Serial Numbers:* | ***622*** *(-007 & -008)* *V1089390 thru V1545232* | ***623*** *(-007 thru -010)* *V1089390 thru V1545232*

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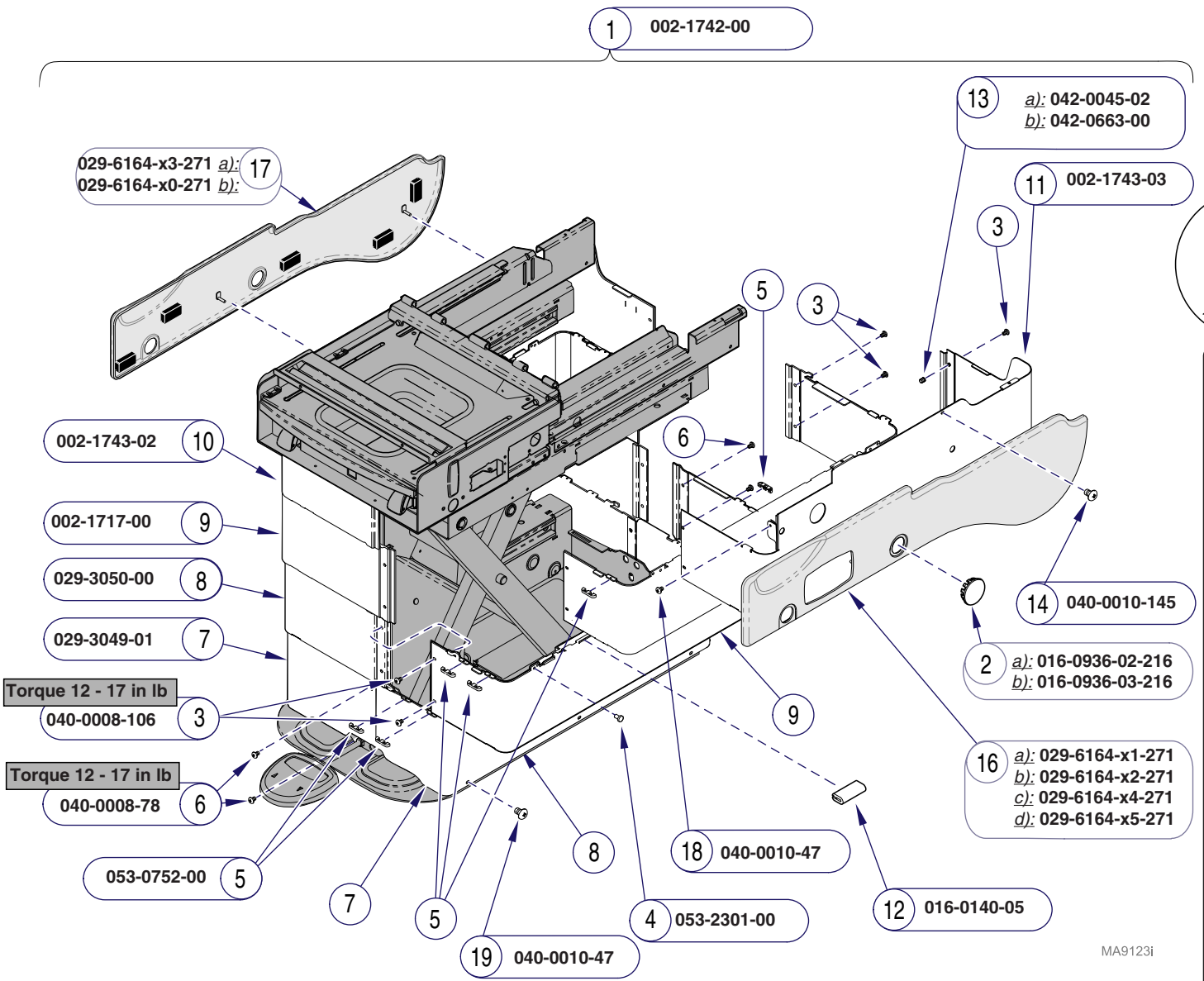

Item	Description	Qty.
1	Table Shroud Assy Set (*incl Items 2-15*)	1
2	• a) Hole Plug *w/o hole*	2
	• b) Hole Plug *w/ hole*	2
3	• Screw *(#8 -32 x .25")*	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 4, 5, & 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12, 13, & 15)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, 13, & 15)*	2
10	• R.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 18)*	1
11	• L.H. Outer Shroud Assembly *(includes items 3, 13, 14, & 18)*	1
12	• Trim Lock	4
13	• a) Nutsert *(Round)*	18
	• b) Nutsert *(Hex)*	18
14	• Screw *(10-24 x 1/2")*	2
15	• Shroud Isolator	8
16	LH Cladding Assembly:	
	a) *w/ receptacle cutout*	1
	b) *w/o receptacle cutout (not shown)*	1
	c) *w/ recept cutout/cer mag (not shown)*	1
	d) *w/o recept cutout/cer mag (not shown)*	1
17	RH Cladding Assembly:	
	a) *w/ ceramic magnet*	1
	b) *w/o ceramic magnet (not shown)*	1
18	Screw *(#10-24 x 3/8")*	2
19	Screw	6

Always Specify Model & Serial Number

Models: *Serial Numbers:*

***622** (-007 & -008)* *V1545233 - present*

***623** (-007 thru -011)* *V1545233 - present*

Table Shrouds (*Midmark models*)

E-15.5

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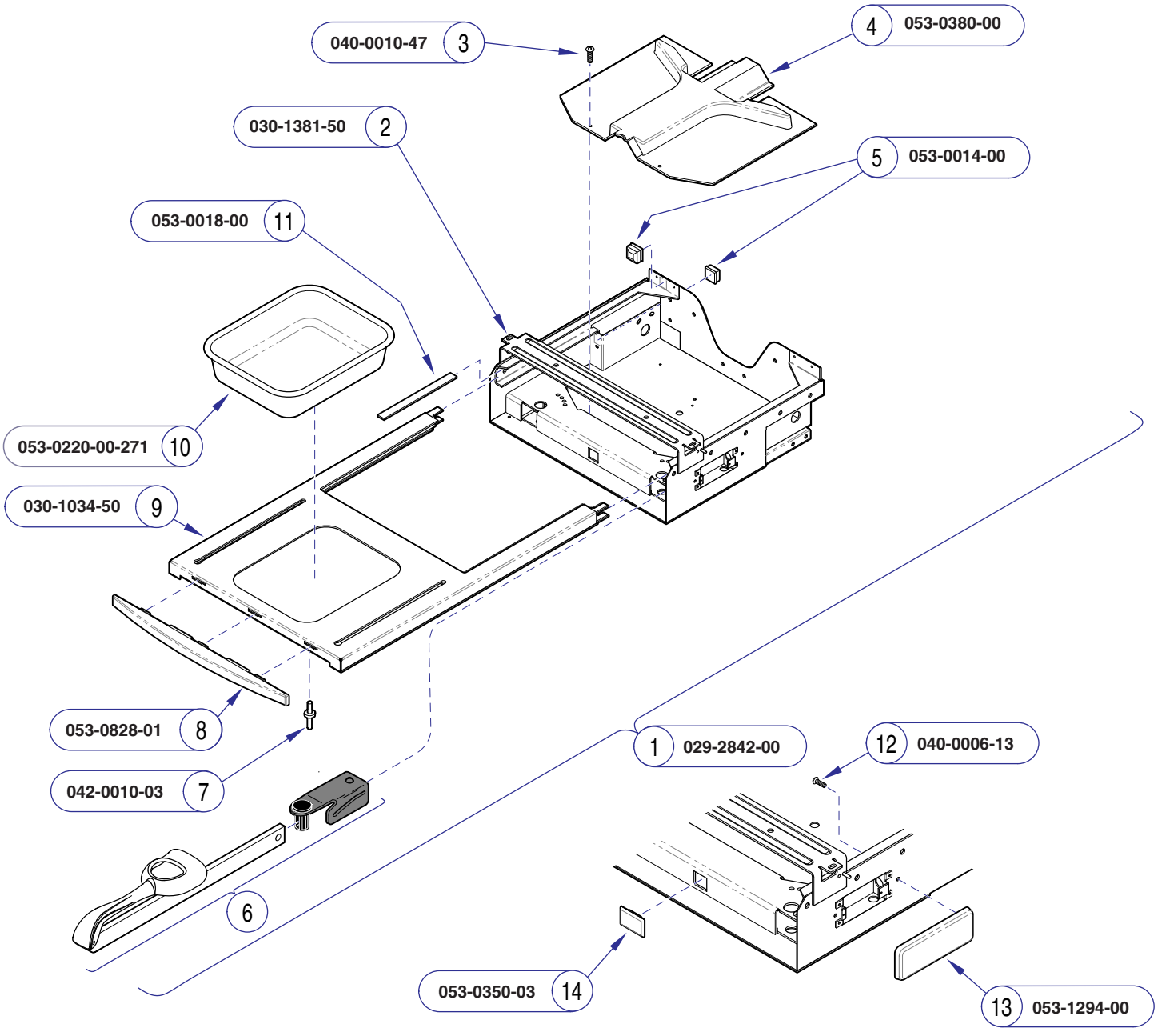

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 11)*	1
2	• Upper Wrap Weldment	1
3	• Screw *(10-24 x 3/8")*	6
4	• Stirrup Guide	1
5	• Bumper	4
6	• Refer to: *"Stirrup Assembly"*	2
7	• Pop Rivot	2
8	• Foot Rest Trim	1
9	• Foot Rest Shelf	1
10	• Plastic Treatment Pan	1
11	• Nylon Tape	4
12	Screw *(models w/o receptacle)*	2
13	Cover *(models w/o receptacle)*	1
14	Cover *(models w/o drawer htr.)*	1

Always Specify Model & Serial Number

Models: ***222 (-001 thru -010)***

Serial Numbers:

RG1000 thru RG1123
RJ1000 thru RJ1094
RL1000 (one table)
RH1000 thru RH1386
RK1000 thru RK1266
RM1000 thru RM1015

Ritter Upperwrap & Footrest Shelf

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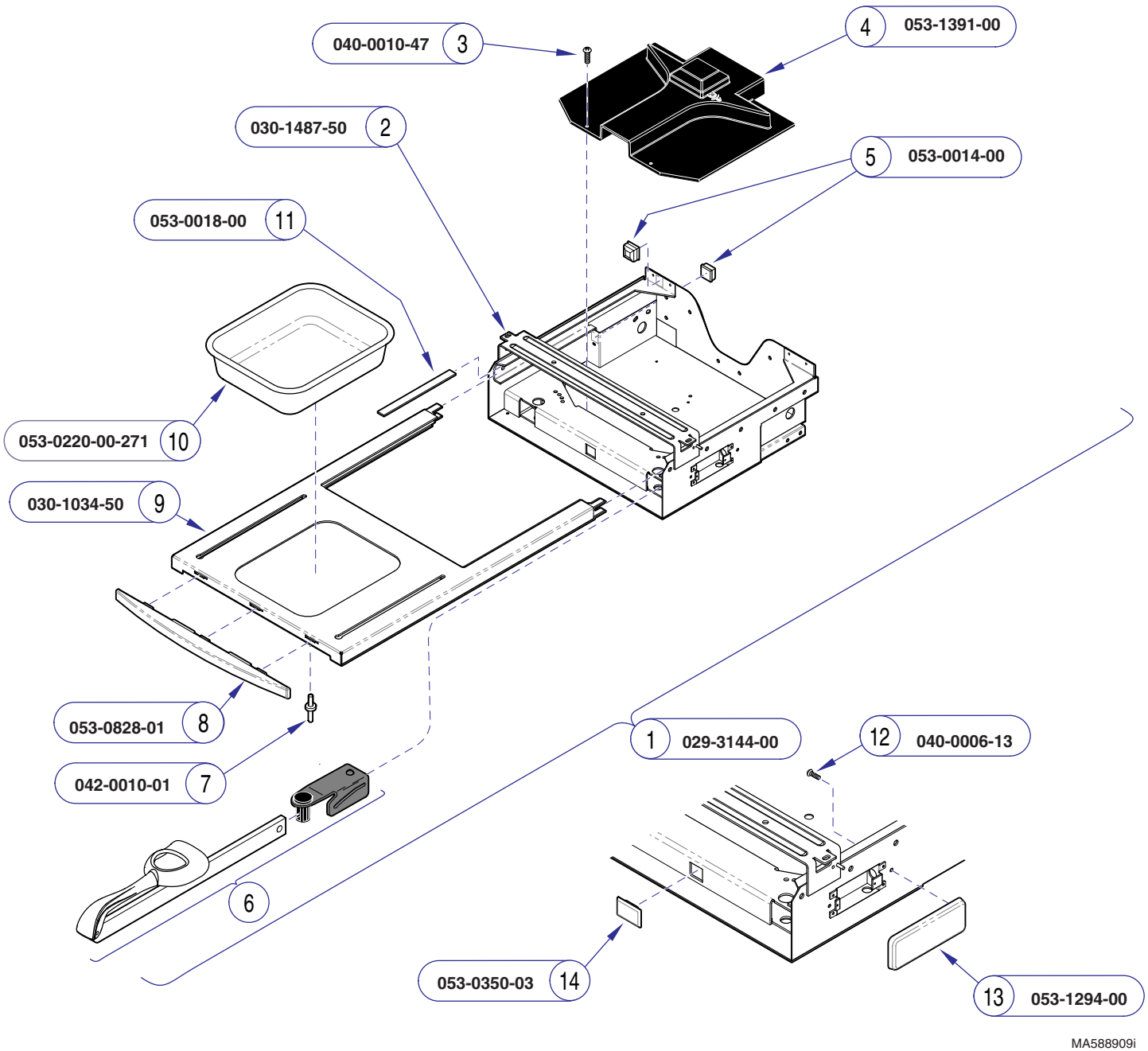

MA588909i

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 11)*	1
2	• Upper Wrap Weldment	1
3	• Screw *(10-24 x 3/8")*	6
4	• Stirrup Guide	1
5	• Bumper	4
6	• Refer to: *"Stirrup Assembly"*	2
7	• Pop Rivot	2
8	• Foot Rest Trim	1
9	• Foot Rest Shelf	1
10	• Plastic Treatment Pan	1
11	• Nylon Tape	4
12	Screw *(models w/o receptacle)*	2
13	Cover *(models w/o receptacle)*	1
14	Cover *(models w/o drawer htr.)*	1

Always Specify Model & Serial Number

Models:	***222* (-001 thru -014)**		***223* (-001 thru -014)**
Serial Numbers:	*RG1124 thru present*	*RH1387 thru present*	*All*
	RJ1095 thru present	*RK1267 thru present*	
	RL1001 thru present	*RM1016 thru present*	
	V2200 thru present		

Ritter Upperwrap & Footrest Shelf

E-16.1

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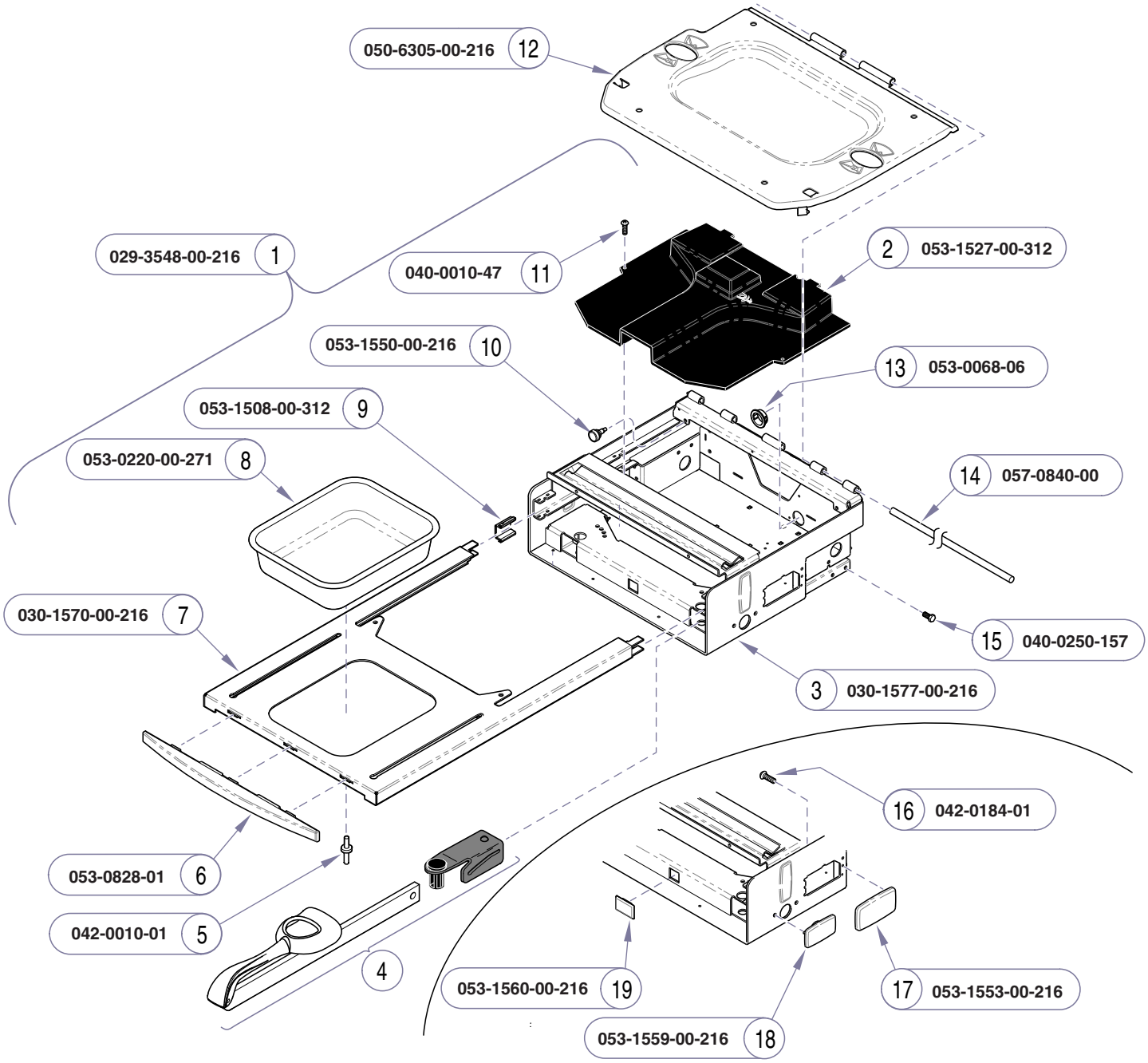

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 11)*	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: *"Stirrup Assembly"*	2
5	• Pop Rivot	2
6	• Foot Rest Trim	1
7	• Foot Rest Shelf	1
8	• Plastic Treatment Pan	1
9	• Runner Glide	4
10	• Stem Bumper	4
11	• Screw *(#10-24 x 3/8")*	2
12	Seat Mtg. Frame	1
13	Snap Bushing	3
14	Pivot Rod	1
15	Screw *(1/4"-20 x 1/2")*	4
	Items 16 thru 19 are optional, depending on the table's features:	
16	Screw *(10-24 x 3/8")*	1
17	Cover *(receptacle)*	1
18	Cover *(accessory socket hole)*	1
19	Cover *(drawer heater switch)*	1

Always Specify Model & Serial Number

E-16.2

Ritter Upperwrap & Footrest Shelf

Models: Serial Numbers:	***222*** *(-015 thru -017)* prior to V323419	***223*** *(-015 thru -016)* prior to V323419

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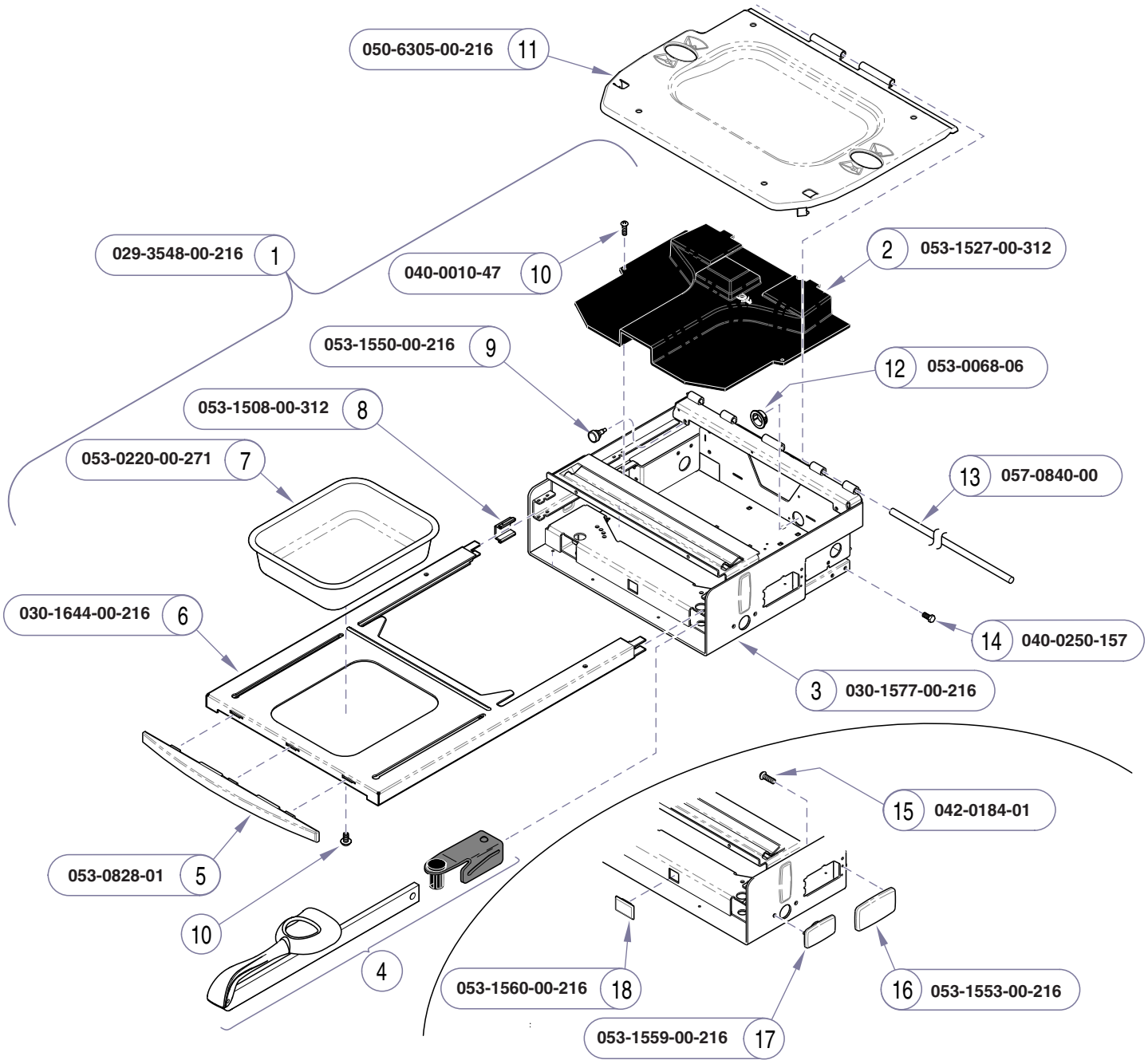

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 10)*	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: *"Stirrup Assembly"*	2
5	• Foot Rest Trim	1
6	• Foot Rest Shelf	1
7	• Plastic Treatment Pan	1
8	• Runner Glide	4
9	• Stem Bumper	4
10	• Screw *(#10-24 x 3/8")*	4
11	Seat Mtg. Frame	1
12	Snap Bushing	3
13	Pivot Rod	1
14	Screw *(1/4"-20 x 1/2")*	4
	Items 15 thru 18 are optional, depending on the table's features:	
15	Screw *(10-24 x 3/8")*	1
16	Cover *(receptacle)*	1
17	Cover *(accessory socket hole)*	1
18	Cover *(drawer heater switch)*	1

Always Specify Model & Serial Number

Models: Serial Numbers:

222 (-015 thru -017)	***223 (-015 thru -016)***
V323419 to V816454	*V323419 to V816454*

Ritter Upperwrap & Footrest Shelf

E-16.3

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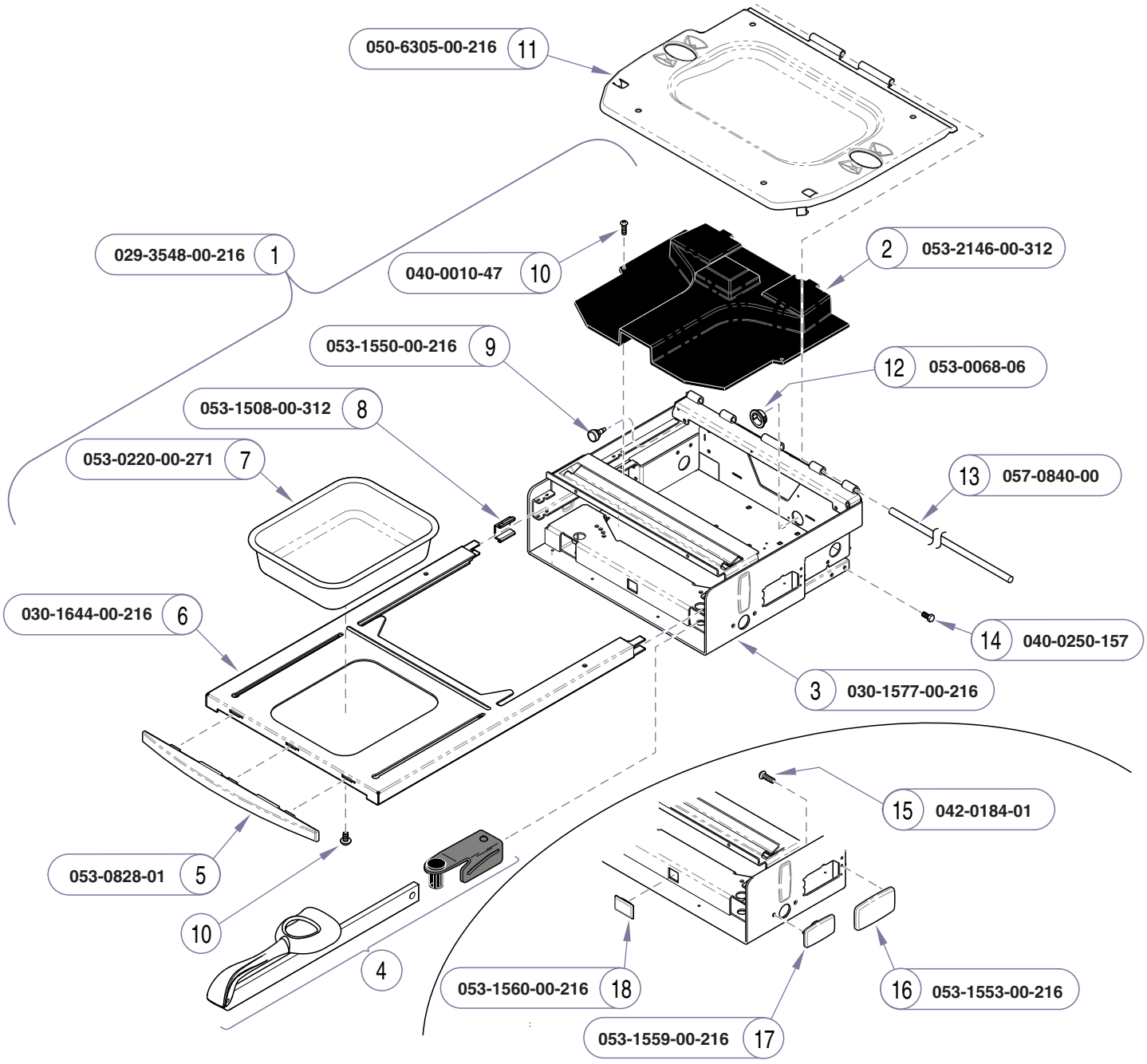

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 10)*	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: *"Stirrup Assembly"*	2
5	• Foot Rest Trim	1
6	• Foot Rest Shelf	1
7	• Plastic Treatment Pan	1
8	• Runner Glide	4
9	• Stem Bumper	4
10	• Screw *(#10-24 x 3/8")*	4
11	Seat Mtg. Frame	1
12	Snap Bushing	3
13	Pivot Rod	1
14	Screw *(1/4"-20 x 1/2")*	4
	Items 15 thru 18 are optional, depending on the table's features:	
15	Screw *(10-24 x 3/8")*	1
16	Cover *(receptacle)*	1
17	Cover *(accessory socket hole)*	1
18	Cover *(drawer heater switch)*	1

Always Specify Model & Serial Number

Ritter Upperwrap & Footrest Shelf

Models: Serial Numbers:	***222 (-015 thru -017)*** *V816455 thru present*	***223 (-015 thru -016)*** *V816455 thru present*

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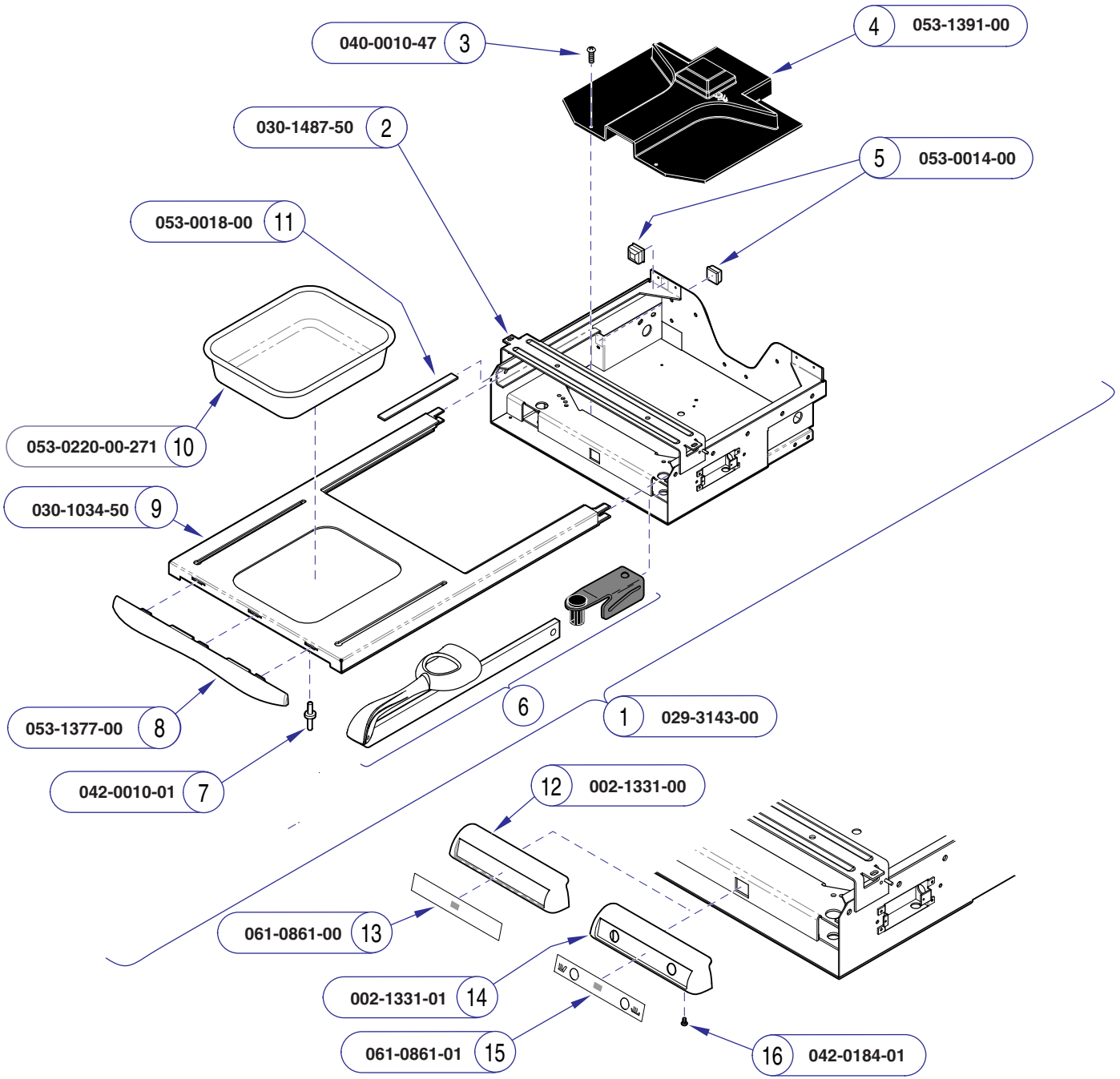

MA588910i

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 11)*	1
2	• Upper Wrap Weldment	1
3	• Screw *(10-24 x 3/8")*	6
4	• Stirrup Guide	1
5	• Bumper	4
6	• Refer to: *"Stirrup Assembly"*	2
7	• Pop Rivot	2
8	• Foot Rest Trim	1
9	• Foot Rest Shelf	1
10	• Plastic Treatment Pan	1
11	• Nylon Tape	4
12	Switch Housing and Label Kit *(without switch holes [includes label])*	1
13	Switch Housing Label *(no holes)*	1
14	Switch Housing and Label Kit *(with two switch holes [includes label])*	1
15	Switch Housing Label *(two holes)*	1
16	Screw *(K40 x 12)*	2

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***622*** *(-001 thru -006)* *All*	***623*** *(-001 thru -006)* *All*

Midmark Upperwrap & Footrest Shelf

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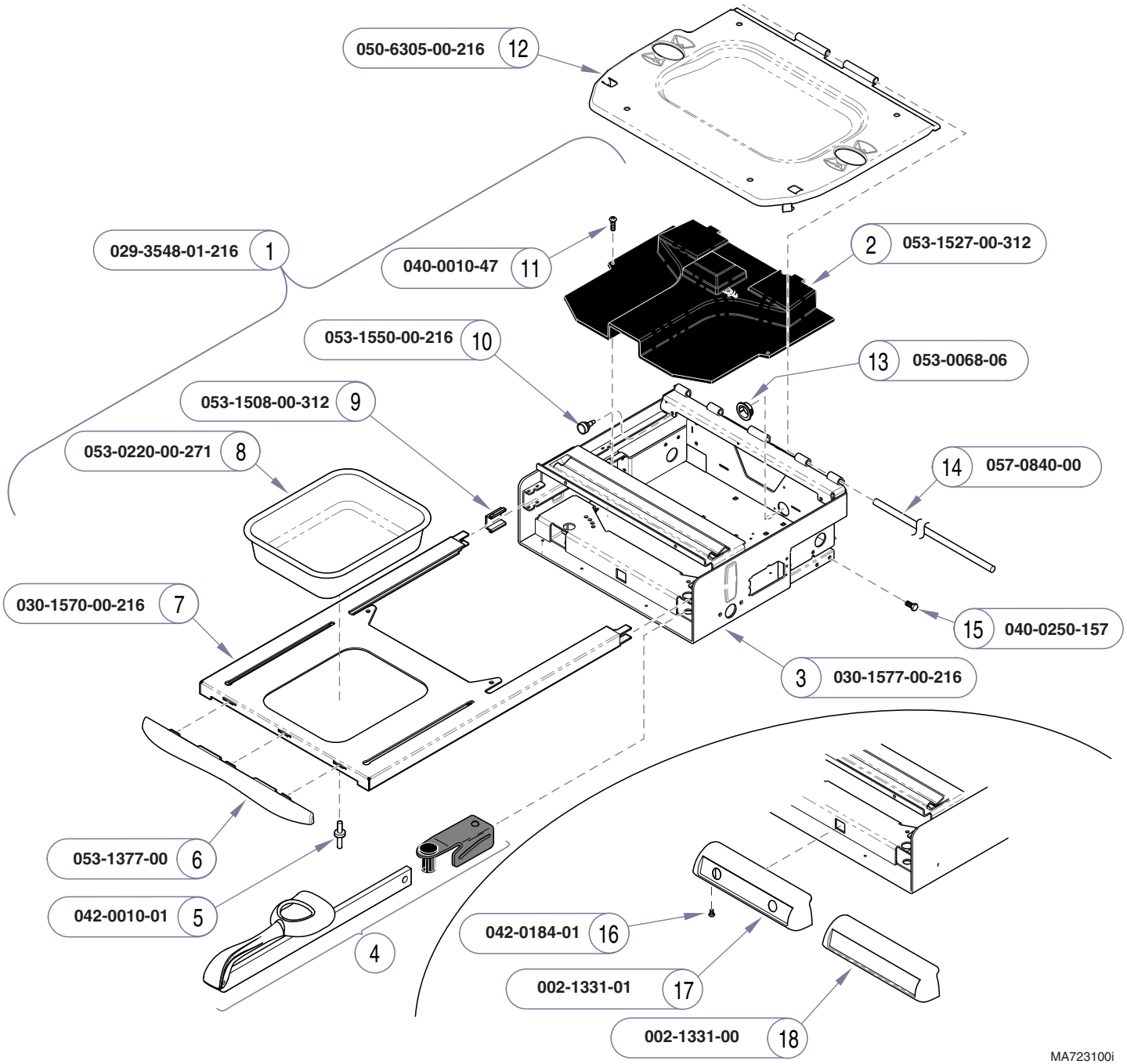

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 11)*	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: *"Stirrup Assembly"*	2
5	• Pop Rivot	2
6	• Foot Rest Trim	1
7	• Foot Rest Shelf	1
8	• Plastic Treatment Pan	1
9	• Runner Glide	4
10	• Stem Bumper	4
11	• Screw *(#10-24 x 3/8")*	2
12	Seat Mtg. Frame	1
13	Snap Bushing	3
14	Pivot Rod	1
15	Screw *(1/4"-20 x 1/2")*	4
16	Screw	2
17	Switch Housing and Label Kit *(without switch holes [includes label])*	1
18	Switch Housing and Label Kit *(with two switch holes [includes label])*	1

Always Specify Model & Serial Number

Midmark Upperwrap & Footrest Shelf

Models: *Serial Numbers:* | ***622*** *(-007 & -008)* *prior to V323419* | ***623*** *(-007 thru -010)* *prior to V323419*

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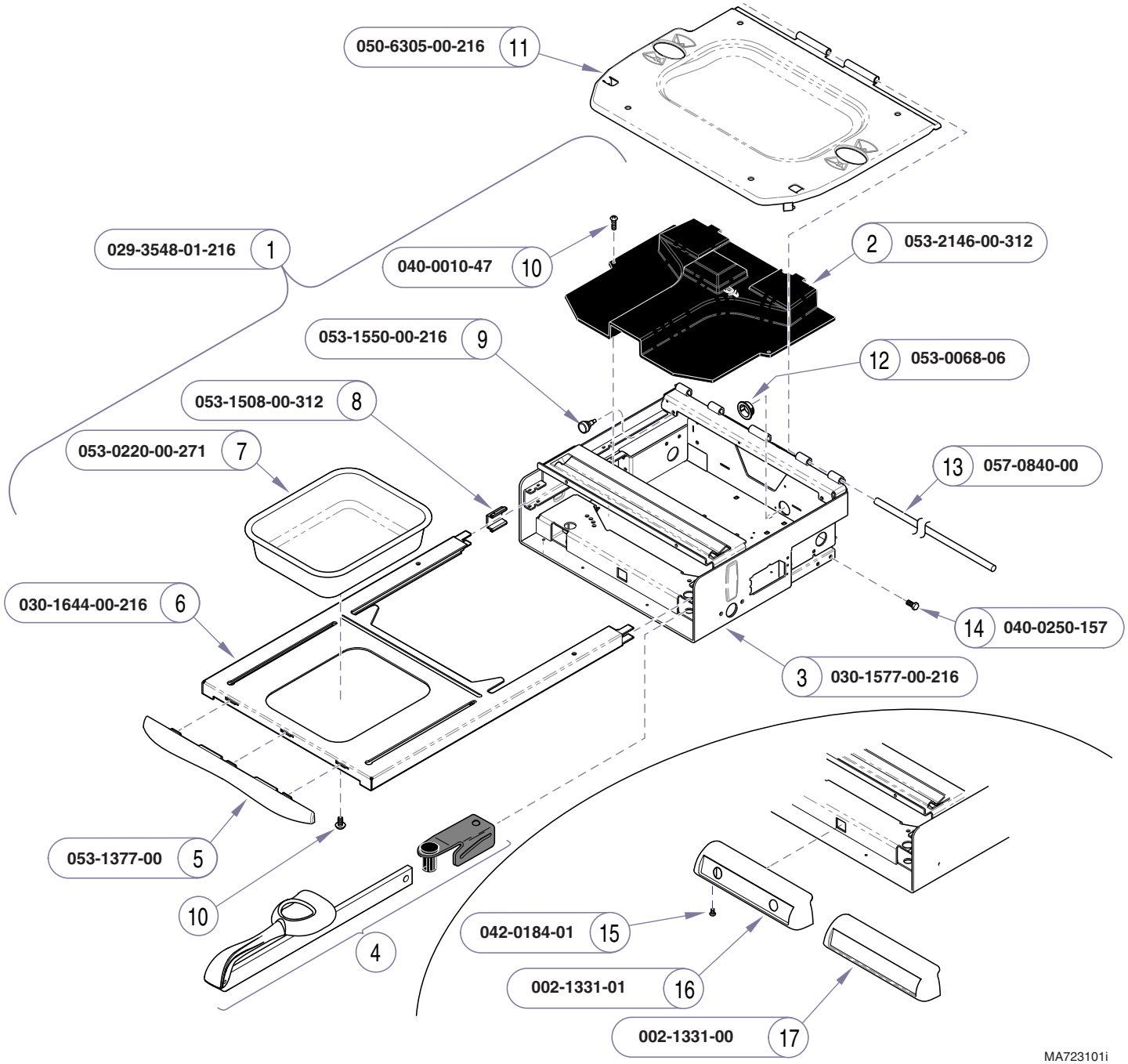

Item	Description	Qty.
1	Upperwrap Assembly *(includes items 2 thru 10)*	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: *"Stirrup Assembly"*	2
5	• Foot Rest Trim	1
6	• Foot Rest Shelf	1
7	• Plastic Treatment Pan	1
8	• Runner Glide	4
9	• Stem Bumper	4
10	• Screw *(#10-24 x 3/8")*	4
11	Seat Mtg. Frame	1
12	Snap Bushing	3
13	Pivot Rod	1
14	Screw *(1/4"-20 x 1/2")*	4
15	Screw	2
16	Switch Housing and Label Kit *(without switch holes [includes label])*	1
17	Switch Housing and Label Kit *(with two switch holes [includes label])*	1

Always Specify Model & Serial Number

Models: Serial Numbers:

***622** (-007 & -008)* V323419 thru present

***623** (-007 thru -011)* V323419 thru present

Midmark Upperwrap & Footrest Shelf

E-17.2

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Refer To: **Go To Page:**

Upperwrap & Footrest Shelf:

Ritter models E-16*

Midmark models E-17*

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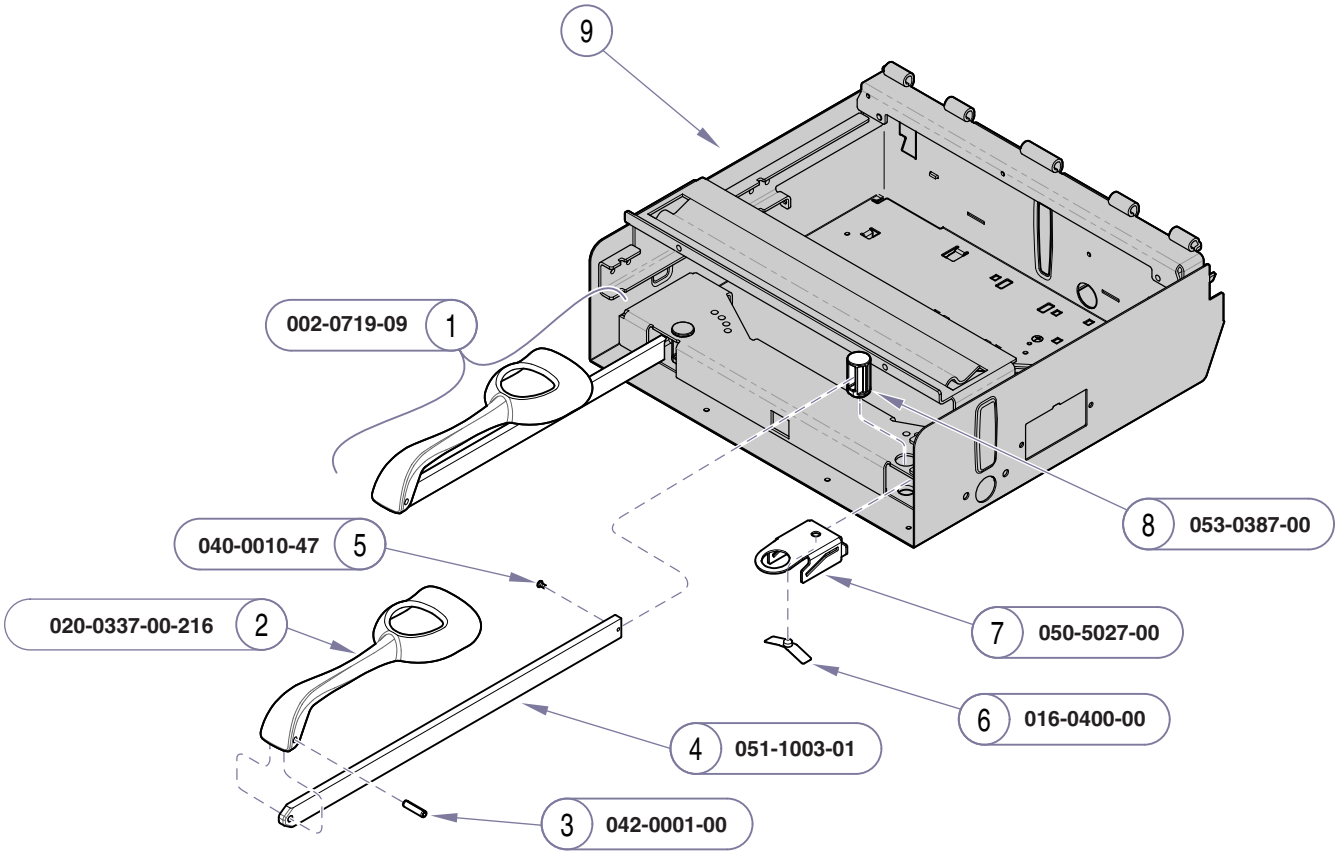

MA703900I

MA703900i

Item	Description	Qty.
1	Stirrup Assembly Set (incl. two assemblies) *(includes items 2 thru 4)*	1
2	• Stirrup	1
3	• Roll Pin	1
4	• Stirrup Bar	1
5	Screw *(#10-24 x 3/8")*	2
6	Guide Bracket Spring	2
7	Guide Bracket	2
8	Pivot Boss	2
9	Refer to: *"Upperwrap & Footrest Shelf"*	Ref

Always Specify Model & Serial Number

Stirrups

Models: ***All***
Serial Numbers: *All*

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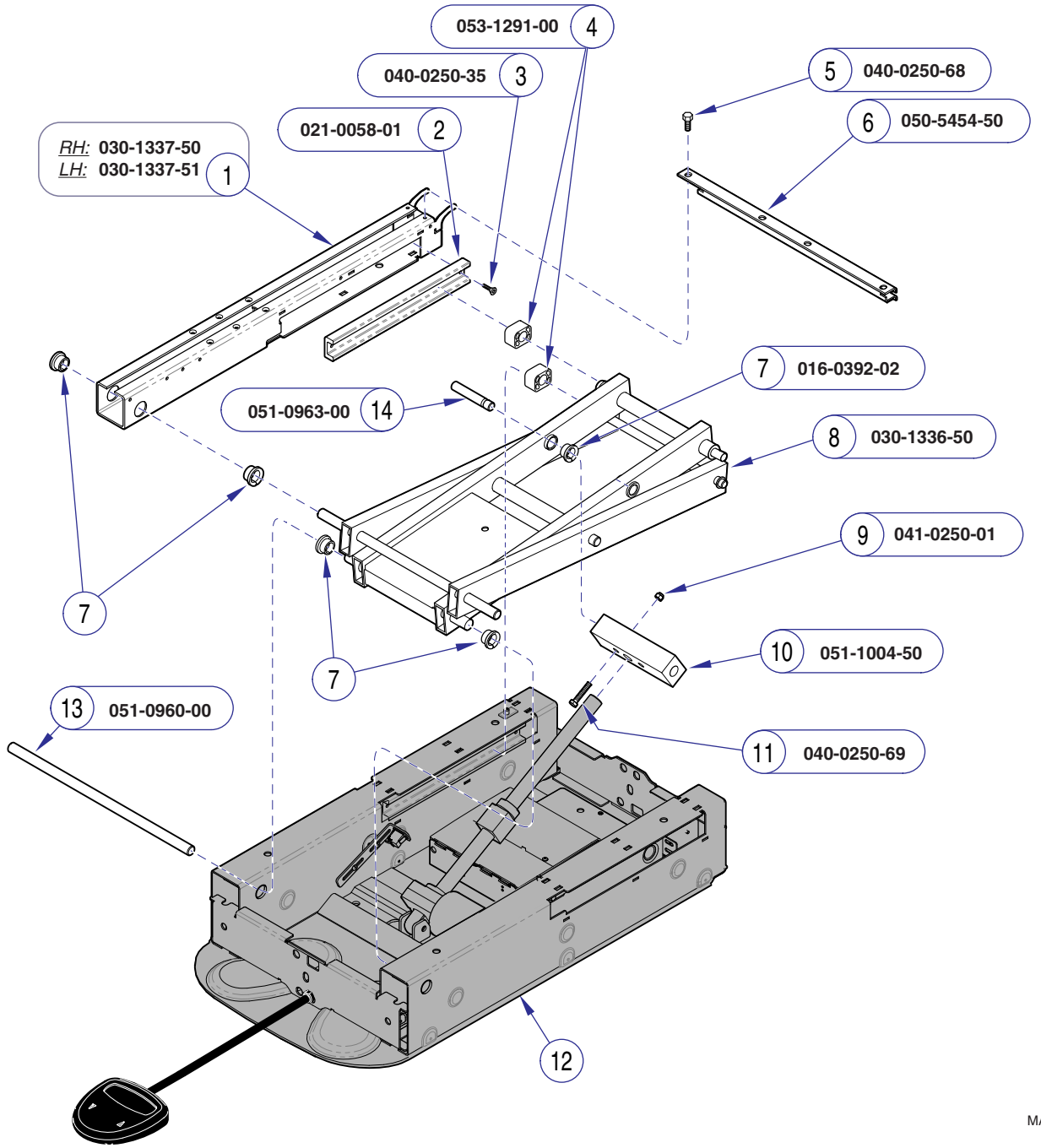

MA588104i

Refer To: Go To Page:
Base Components:
Ritter models E-20

Item	Description	Qty.
1	Scissor Channel Weldment *(RH shown)*	2
2	Extrusion Slide	2
3	Flat Head Screw *(1/4-20 x .5")*	4
4	Bearing Guide	4
5	Screw *(1/4-20 type F)*	2
6	Top Cover Support Channel	1
7	Flange Bearing	8
8	Scissor Arm Weldment Kit	1
9	Lock Nut	2
10	Thru Block	1
11	Screw *(1/4-20 x 2.25")*	2
12	*Refer to "Base Components"*	Ref
13	Pivot Shaft	1
14	Stub Shaft	2

Always Specify Model & Serial Number

Models: *222 (-001 thru -010)*
Serial Numbers:
RG1000 thru RG1123 *RH1000 thru RH1386*
RJ1000 thru RJ1094 *RK1000 thru RK1266*
RL1000 (one table) *RM1001 (one table)*

Base Scissor / Slide Mechanism

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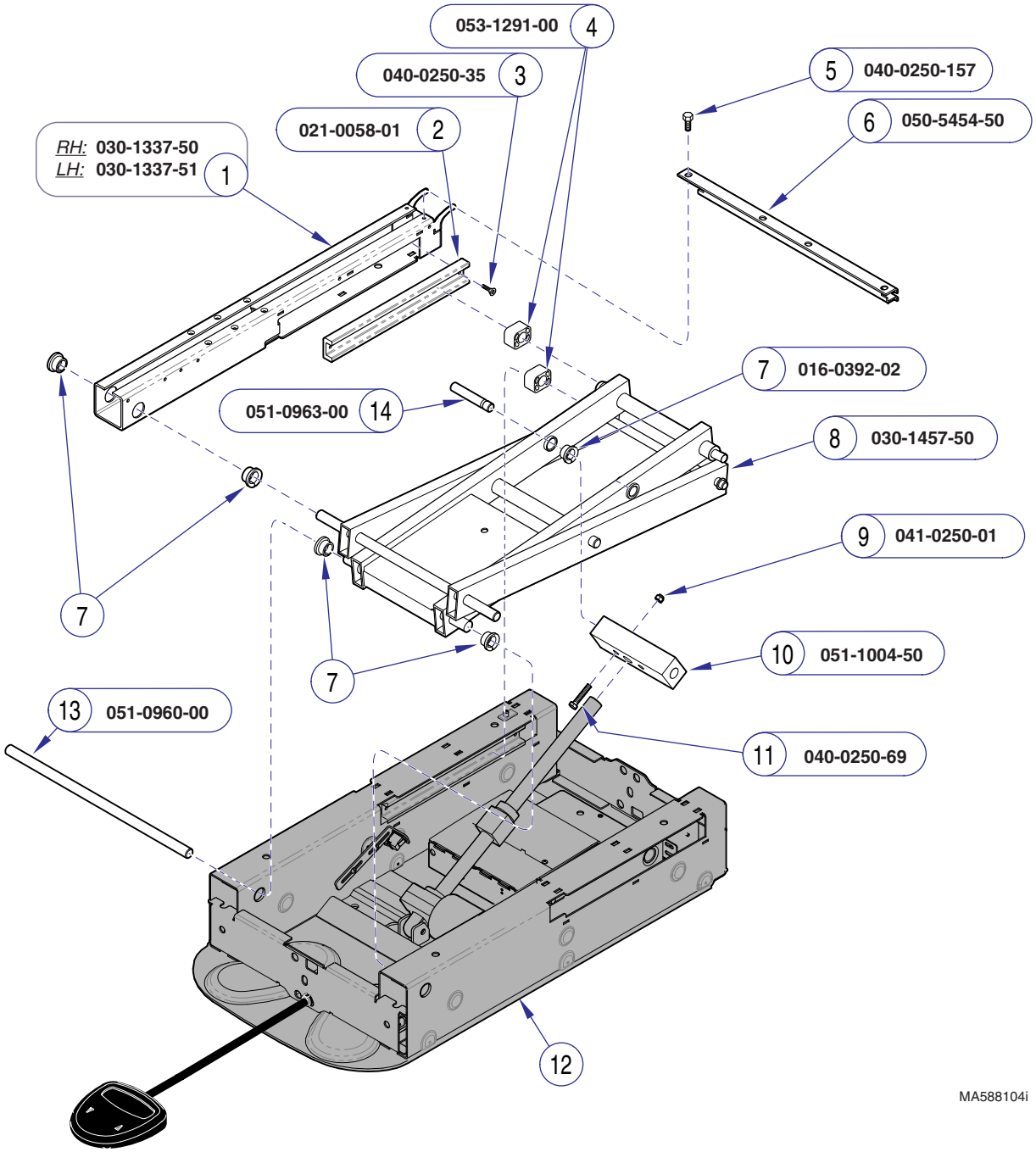

Refer To: **Go To Page:**

Base Components:

Ritter models E-20.1*

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Item	Description	Qty.
1	Scissor Channel Weldment *(RH shown)*	2
2	Extrusion Slide	2
3	Flat Head Screw *(1/4-20 x .5")*	4
4	Bearing Guide	4
5	Screw *(1/4-20 type F)*	2
6	Top Cover Support Channel	1
7	Flange Bearing	8
8	Scissor Arm Weldment Kit	1
9	Lock Nut	2
10	Thru Block	1
11	Screw *(1/4-20 x 2.25")*	2
12	*Refer to "Base Components"*	Ref
13	Pivot Shaft	1
14	Stub Shaft	2

Always Specify Model & Serial Number

Models: *222 (-001 thru -010)*

Serial Numbers:

RG1124 thru RG1530
RJ1095 thru RJ1312
RK1267 thru RK1334
RM1001 thru RM1015
RH1387 thru RH1820
RH1830 (one table)
RL1001 thru RL1060

Base Scissor / Slide Mechanism

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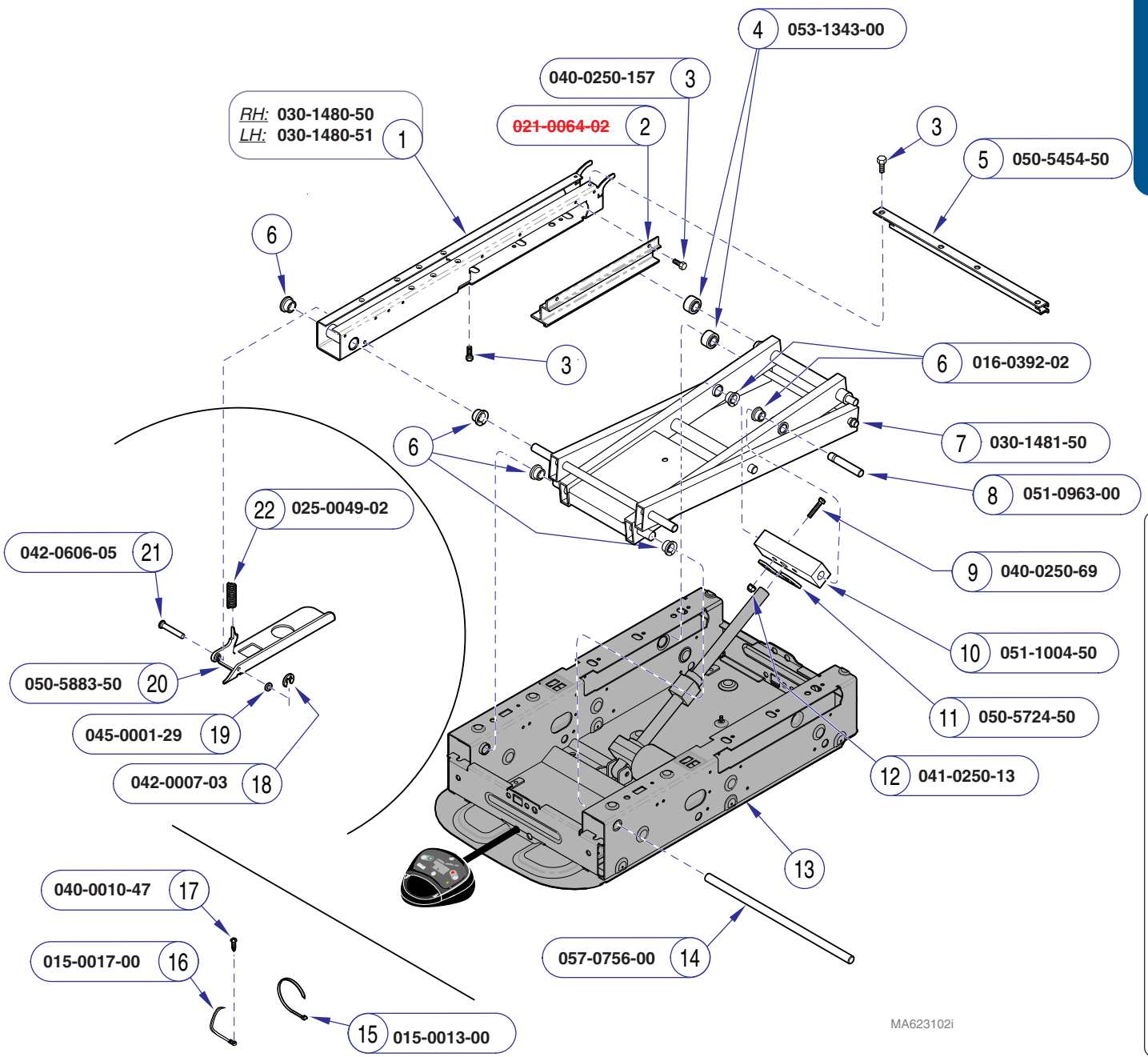

Refer To: **Go To Page:**

Base Components:

Ritter models E-20.1*

Midmark models E-21*

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Scissor Channel Weldment *(RH shown)*	2
2	Extrusion Slide	2
3	Flat Head Screw *(1/4-20 x 1/2")*	4
4	Bearing Guide	4
5	Top Cover Support Channel	1
6	Flange Bearing	6
7	Scissor Arm Weldment Kit	1
8	Stub Shaft	2
9	Screw *(1/4"-20 x 2.25")*	2
10	Thru Block	1
11	Thru Block Bracket	1
12	Lock Nut *(1/4"-20)*	2
13	*Refer to "Base Components"*	Ref
14	Pivot Shaft	1
15	Cable Tie	1
16	Cable Tie w/screw hole	3
17	Screw *(10-24 x .37")*	3
	Items 18 thru 22 apply only to 623 models	
18	E-clip	1
19	Washer	1
20	Auto-return Switch Strike	1
21	Clevis Pin	1
22	Spring	1

Always Specify Model & Serial Number

Models:	***222 (all)***		***223 (all)***	***622 (all)***	***623 (all)***
Serial Numbers:	*RG1531 thru present*	*RH1821 thru RH1829*	*V2200 thru V489138 & all prefixes: SC, SD, SE, SF, SG, SH*	*V2200 thru V489138 & all prefixes: SJ, SK, SN, SP*	*V2200 thru V489138 & all prefixes: SL, SM, SR, SS*
	RJ1313 thru present	*RH1831 thru present*			
	RK1335 thru present	*RL1061 thru present*			
	RM1016 thru present	*V2200 thru V489138*			

Base Scissor / Slide Mechanism

E-19.2

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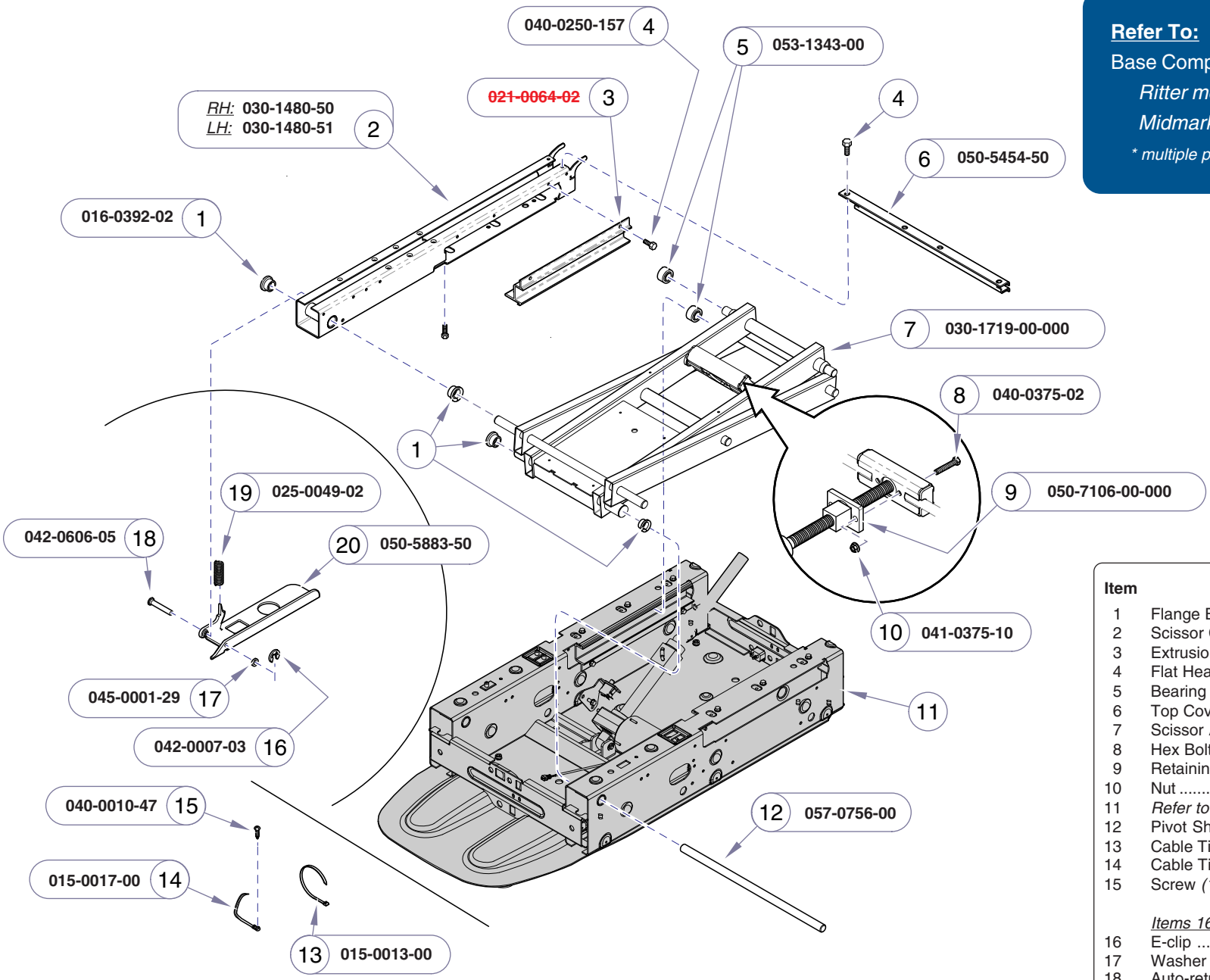

Refer To: **Go To Page:**

Base Components:

Ritter models E-20.1*

Midmark models E-21*

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Flange Bearing	6?
2	Scissor Channel Weldment *(RH shown)*	2
3	Extrusion Slide	2
4	Flat Head Screw *(1/4-20 x 1/2")*	4
5	Bearing Guide	4
6	Top Cover Support Channel	1
7	Scissor Arm Weldment Kit	1
8	Hex Bolt *(3/8"-16 x 1 1/4")*	2
9	Retaining Plate	1
10	Nut	2
11	*Refer to "Base Components"*	Ref
12	Pivot Shaft	1
13	Cable Tie	1
14	Cable Tie w/screw hole	3
15	Screw *(10-24 x .37")*	3
	Items 16 thru 20 apply only to 623 models	
16	E-clip	1
17	Washer	1
18	Auto-return Switch Strike	1
19	Clevis Pin	1
20	Spring	1

Always Specify Model & Serial Number

Base Scissor / Slide Mechanism

Models: Serial Numbers:	***222*** *(-015 thru -017)* V489139 thru V798445	***223*** *(-015 & -016)* V489139 thru V798445	***622*** *(-007 & -008)* V489139 thru V798445	***623*** *(-007 thru -010)* V489139 thru V798445

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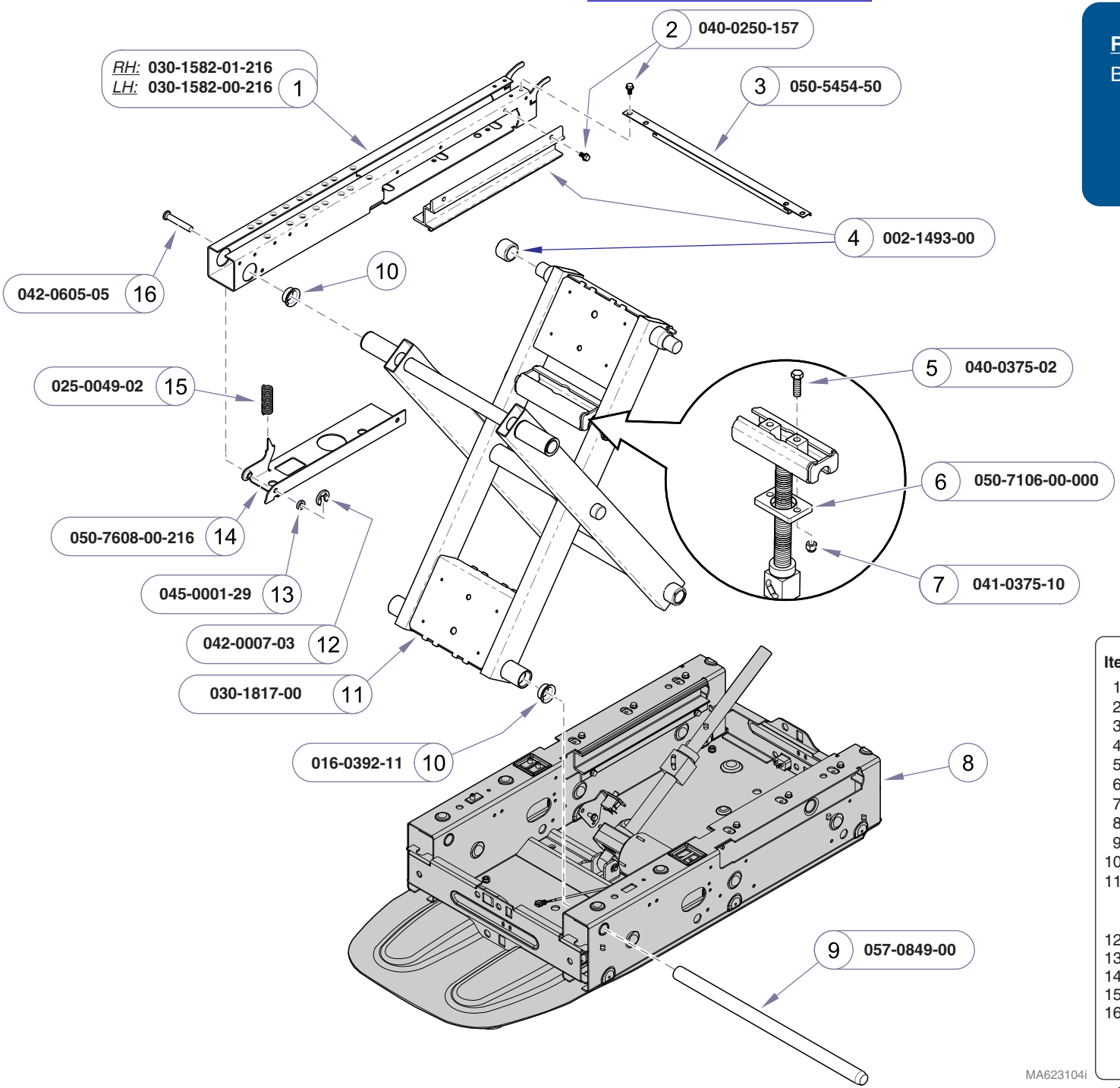

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Base Components:

Ritter models E-20.1*

Midmark models E-21*

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Scissor Channel Weldment *(RH shown)*	2
2	Flat Head Screw *(1/4-20 x 1/2")*	4
3	Top Cover Support Channel	1
4	Kit, Scissor Rollers	1
5	Hex Bolt *(3/8"-16 x 1 1/4")*	2
6	Retaining Plate	1
7	Nut	2
8	*Refer to "Base Components"*	Ref
9	Pivot Shaft	1
10	Flange Bearing	6
11	Scissor Arm Weldment Kit	1
	Items 12 thru 16 apply only to 623 models	
12	E-clip	1
13	Washer	1
14	Auto-return Switch Strike	1
15	Spring	1
16	Clevis Pin	1

Always Specify Model & Serial Number

MA623104i

Models: Serial Numbers:	***222*** *(-015 thru -017)* V798446 thru V897639	***223*** *(-015 & -016)* V798446 thru V897639	***622*** *(-007 & -008)* V798446 thru V897639	***623*** *(-007 thru -010)* V798446 thru V897639

Base Scissor / Slide Mechanism

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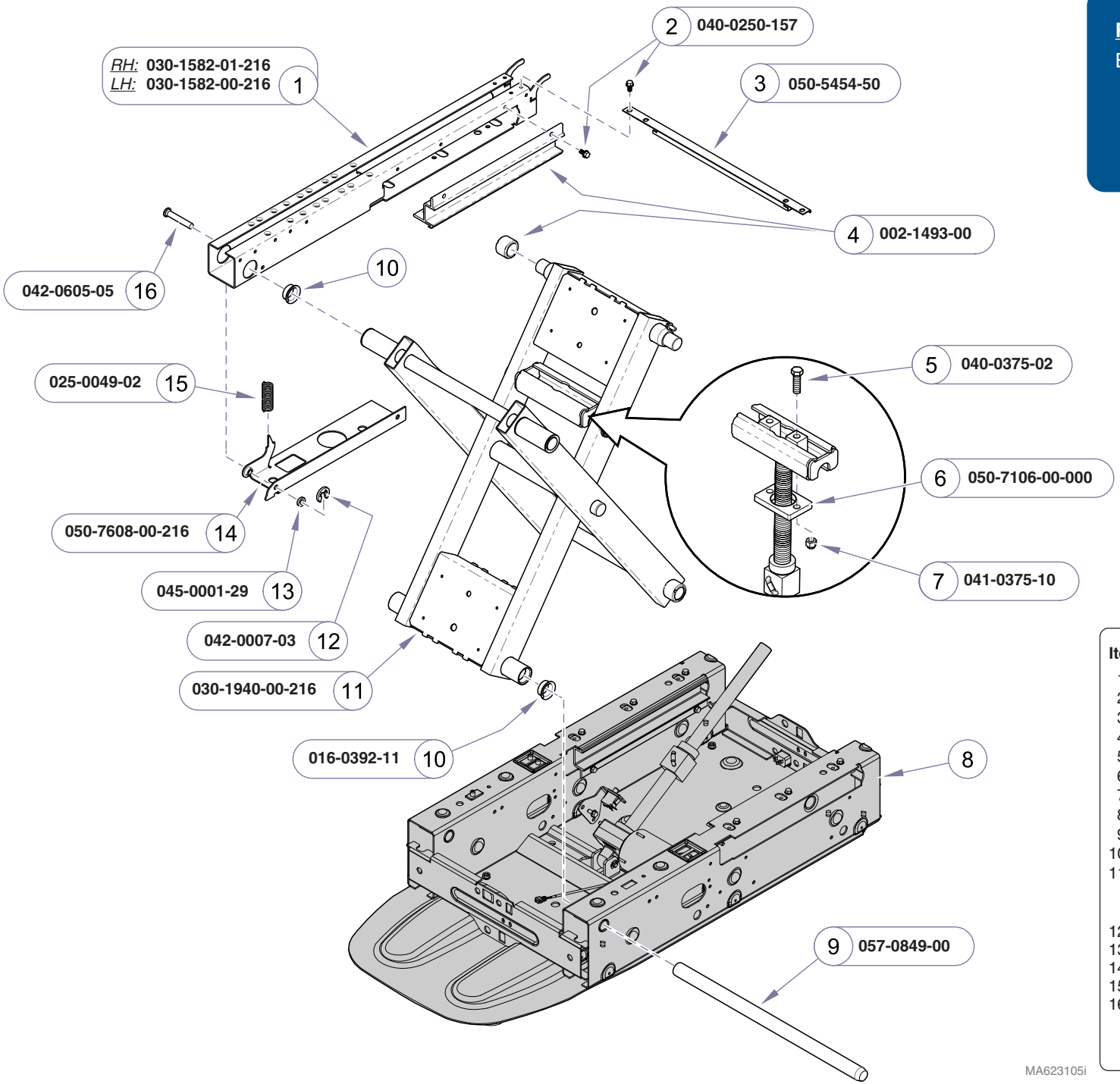

MA623105i

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Base Components:

Ritter models E-20.1*

Midmark models E-21*

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Scissor Channel Weldment *(RH shown)*	2
2	Flat Head Screw *(1/4-20 x 1/2")*	4
3	Top Cover Support Channel	1
4	Kit, Scissor Rollers	1
5	Hex Bolt *(3/8"-16 x 1 1/4")*	2
6	Retaining Plate	1
7	Nut	2
8	*Refer to "Base Components"*	Ref
9	Pivot Shaft	1
10	Flange Bearing	6
11	Scissor Arm Weldment Kit	1
	Items 12 thru 16 apply only to 623 models	
12	E-clip	1
13	Washer	1
14	Auto-return Switch Strike	1
15	Spring	1
16	Clevis Pin	1

Always Specify Model & Serial Number

Base Scissor / Slide Mechanism

Models: Serial Numbers:	***222*** *(-015 thru -017)* V897640 thru V1158421	***223*** *(-015 & -016)* V897640 thru V1158421	***622*** *(-007 & -008)* V897640 thru V1158421	***623*** *(-007 thru -010)* V897640 thru V1158421

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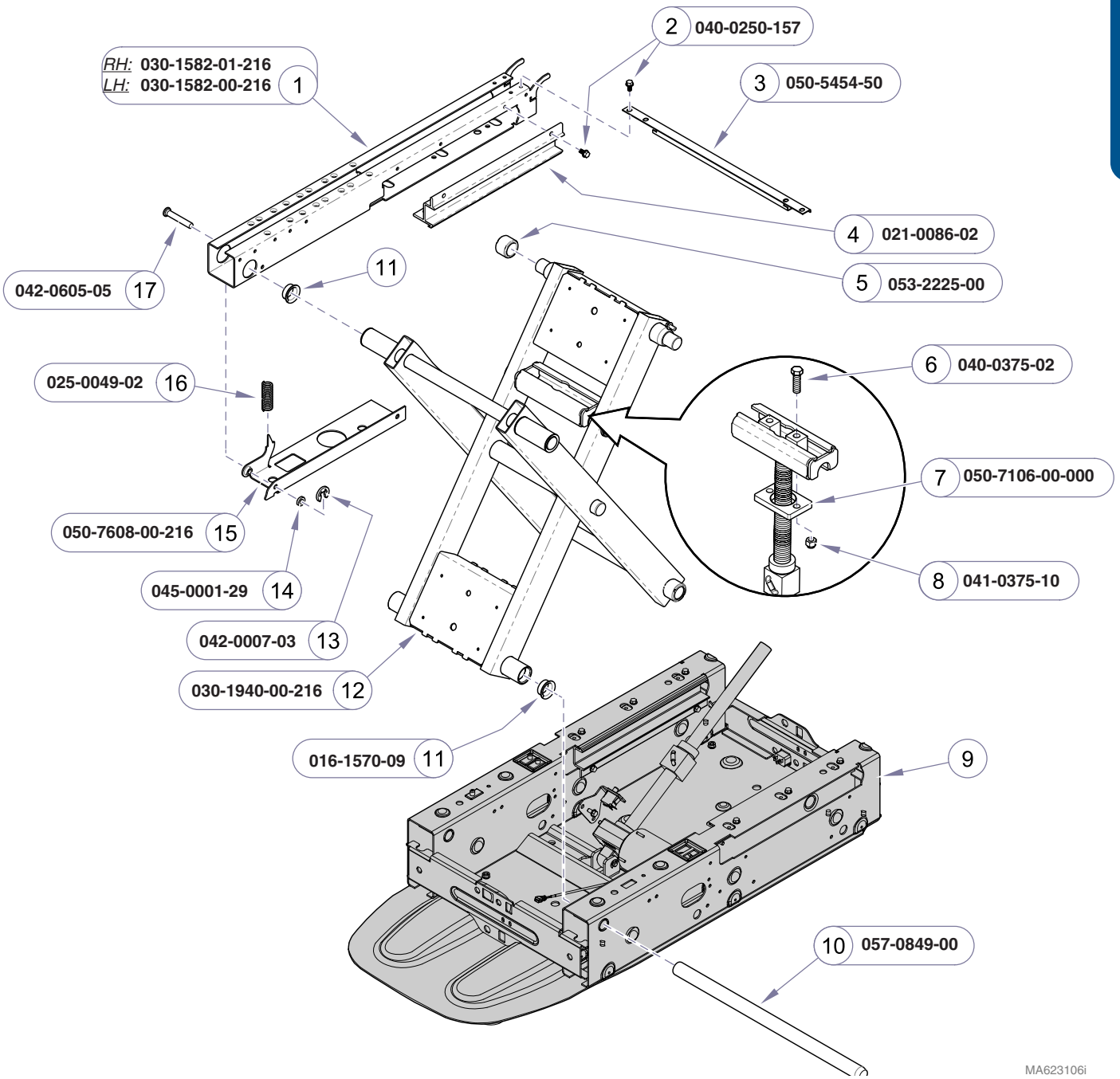

Refer To: **Go To Page:**

Base Components:

Ritter models E-20.1*

Midmark models E-21*

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Scissor Channel Weldment *(RH shown)*	2
2	Flat Head Screw *(1/4-20 x 1/2")*	4
3	Top Cover Support Channel	1
4	Slide Extrusion	2
5	Bearing Guide	4
6	Hex Bolt *(3/8"-16 x 1 1/4")*	2
7	Retaining Plate	1
8	Nut	2
9	*Refer to "Base Components"*	Ref
10	Pivot Shaft	1
11	Flange Bearing	6
12	Scissor Arm Weldment Kit	1
	Items 13 thru 17 apply only to 623 models	
13	E-clip	1
14	Washer	1
15	Auto-return Switch Strike	1
16	Spring	1
17	Clevis Pin	1

Always Specify Model & Serial Number

Models: Serial Numbers:	***222*** *(-015 thru -017)* V1158422 thru Present	***223*** *(-015 & -016)* V1158422 thru Present	***622*** *(-007 & -008)* V1158422 thru Present	***623*** *(-007 thru -011)* V1158422 thru Present

Base Scissor / Slide Mechanism

E-19.6

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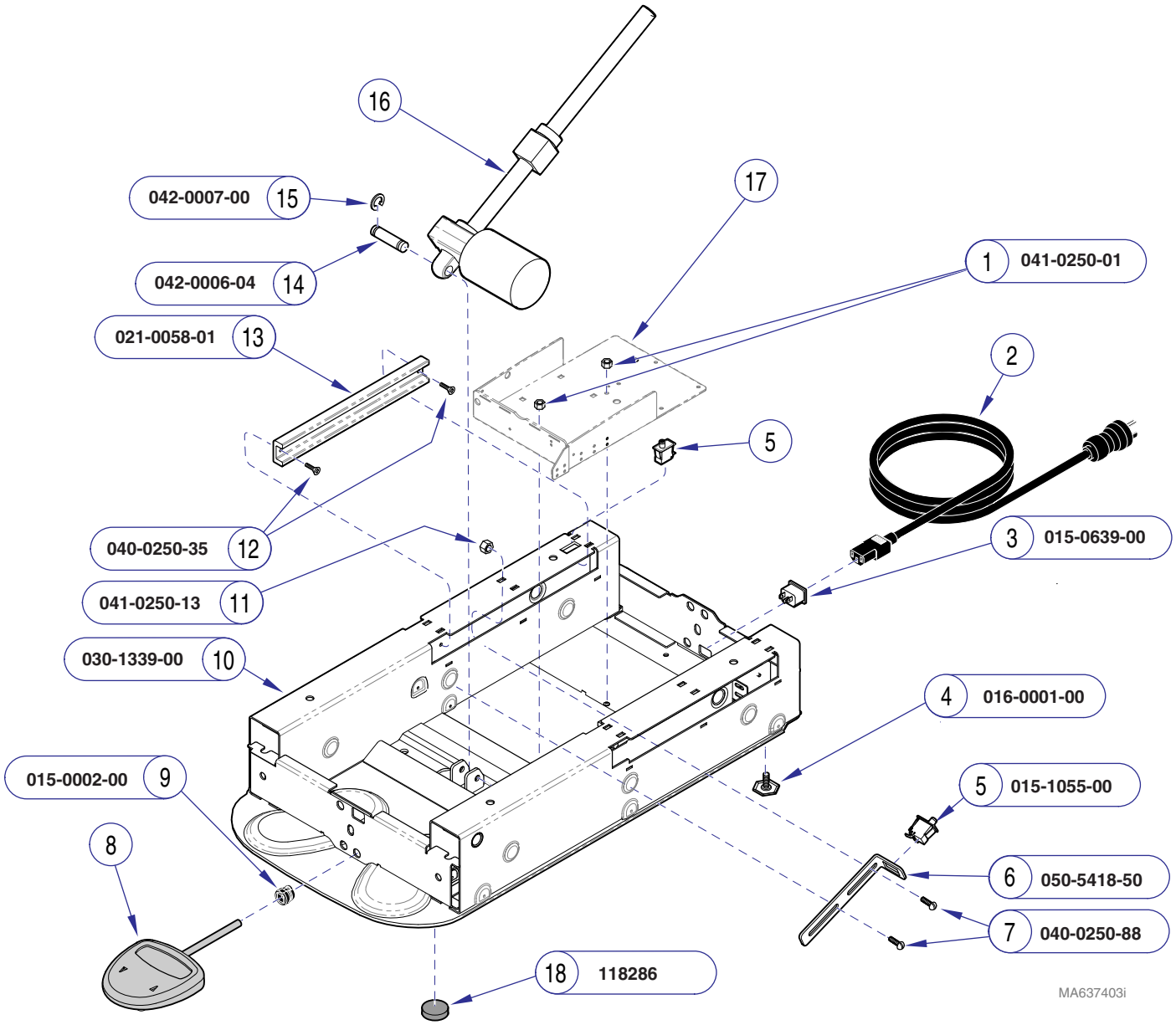
Foot Control - *222 / 622* E-27
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Cords E-39



Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Leveling Screw	2
5	Limit Switch	2
6	Limit Switch Bracket	1
7	Screw	2
8	Refer to: *"Foot Control"*	Ref
9	Strain Relief Bushing	1
10	Base Weldment	1
11	Nut	2
12	Flat Head Screw	4
13	Slide	2
14	Clevis Pin	1
15	E-Ring	2
16	Refer to: *"Base Actuator"*	Ref
17	Refer to: *"PC board Enclosure"*	Ref
18	Non-Skid Pad	2

Always Specify Model & Serial Number

Models: ***222 (-001 thru -010)***

Serial Numbers:

RG1000 thru RG1123
RJ1000 thru RJ1094
RK1000 thru RK1266
RH1000 thru RH1386
RL1000 (one table)
RM1000 (one table)

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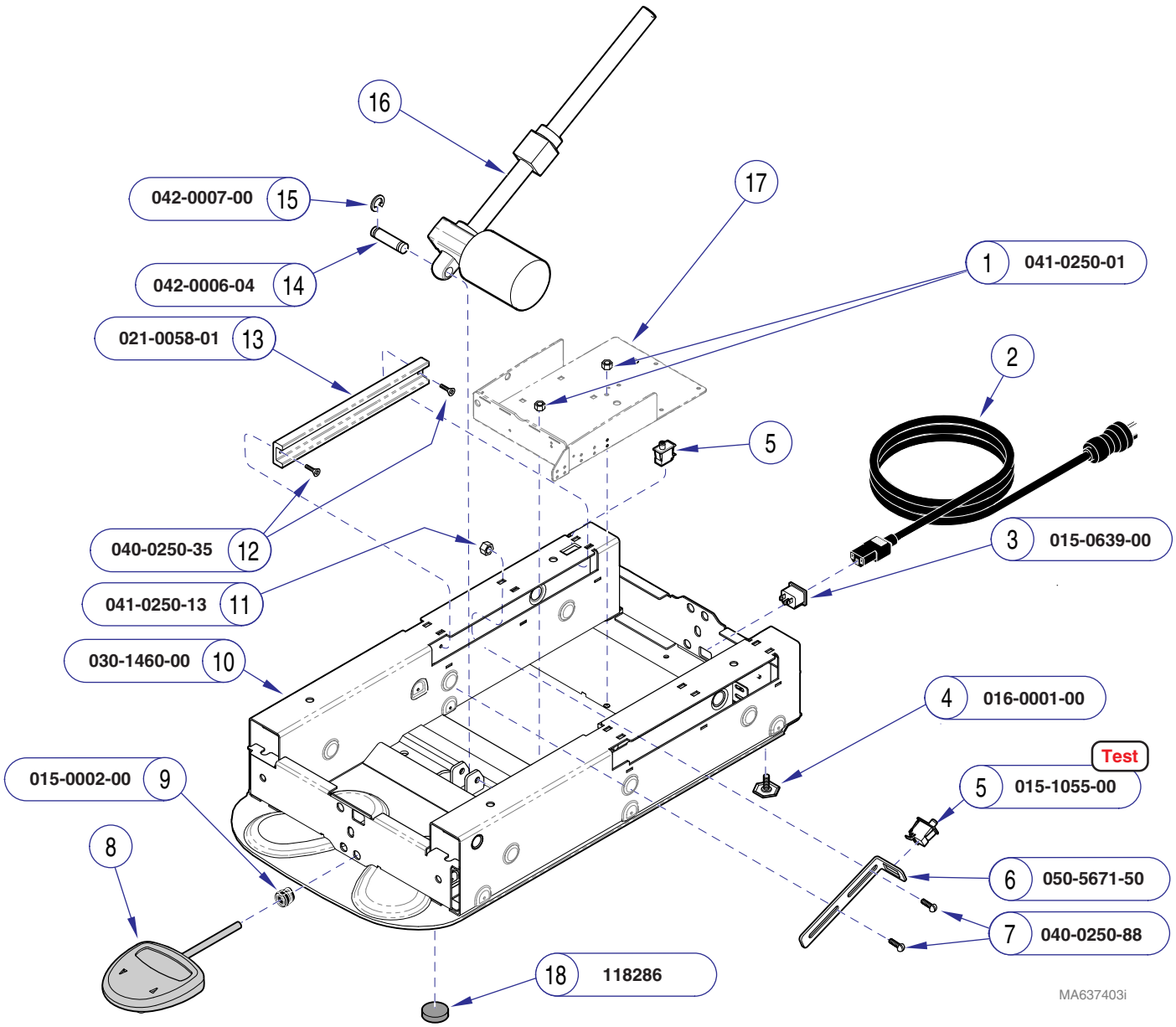

Refer To: — **Go To Page:**

Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Leveling Screw	2
5	Limit Switch	2
6	Limit Switch Bracket	1
7	Screw	2
8	Refer to: *"Foot Control"*	Ref
9	Strain Relief Bushing	1
10	Base Weldment	1
11	Nut	2
12	Flat Head Screw	4
13	Slide	2
14	Clevis Pin	1
15	E-Ring	2
16	Refer to: *"Base Actuator"*	Ref
17	Refer to: *"PC board Enclosure"*	Ref
18	Non-Skid Pad	2

Always Specify Model & Serial Number

Models: *222 (-001 thru -010)*

Serial Numbers:

RG1124 thru RG1530
RJ1095 thru RJ1312
RL1001 thru RL1060
RK1267 thru RK1334
RH1387 thru RH1821
RH1831 thru RH1832
RM1001 thru RM1015

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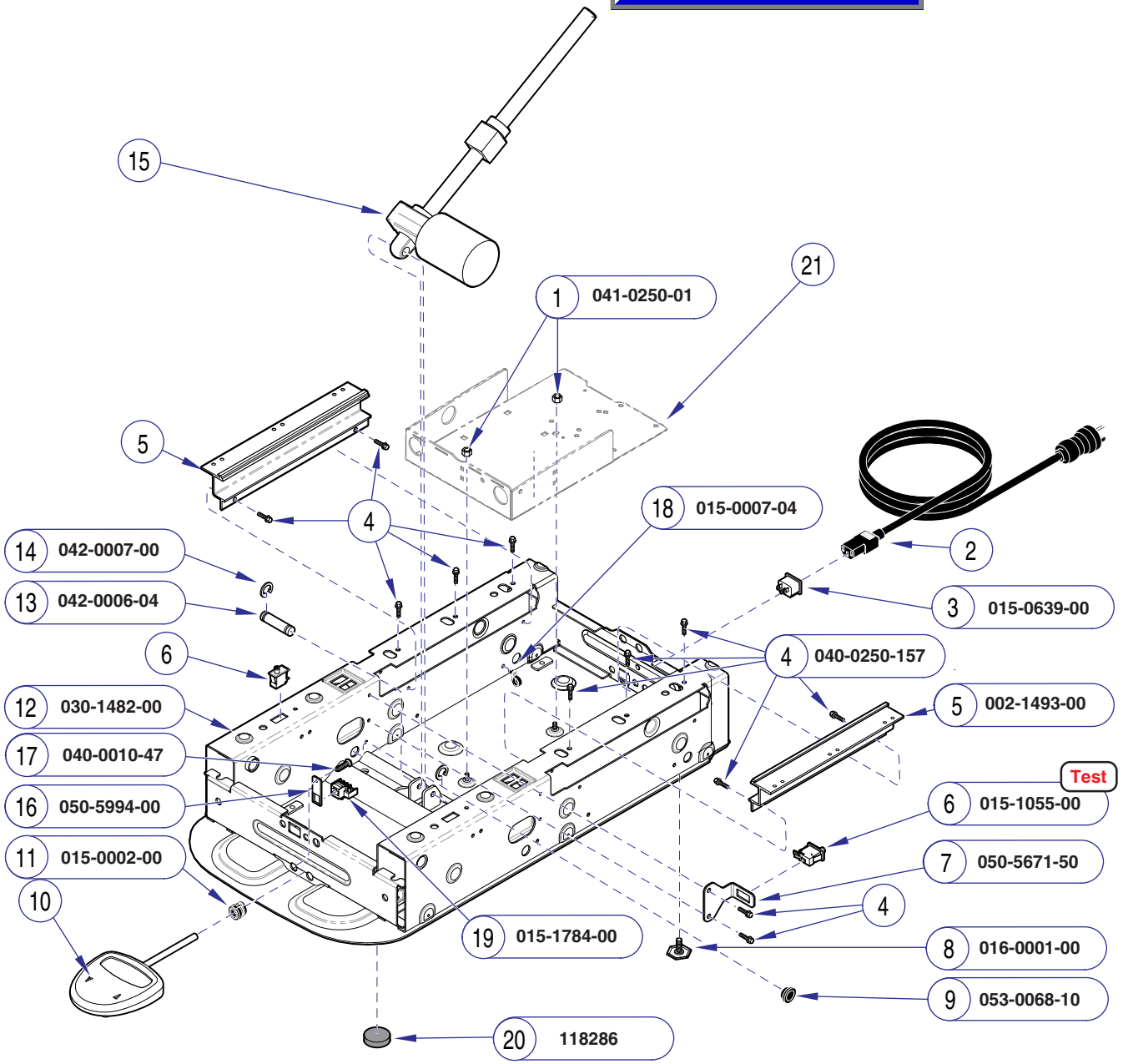

Refer To: **Go To Page:**

Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
223 ..... E-28*
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Kit, Scissor Rollers	1
6	Limit Switch	2
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing *(222 only)*	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Modular Plug Adapter Plate *(223 only)*	1
17	Screw *(223 only)*	1
18	Wrap-N-Tap Wire Clamp	3
19	Modular Plug *(223 Only)*	1
20	Non-Skid Pad	2
21	Refer to: *"PC board Enclosure"*	Ref

Always Specify Model & Serial Number

Models:
Serial Numbers:

***222* (-001 thru -014)**

RG1531 thru present
RJ1313 thru present
RL1061 thru present
RK1335 thru present
RH1822 thru RH1830
RH1833 thru present
RM1016 thru present
V2200 thru V58430

***223* (-001 thru -014)**

SC1000 thru present
SE1000 thru present
V2200 thru V58430
SD1000 thru present
SF1000 thru present

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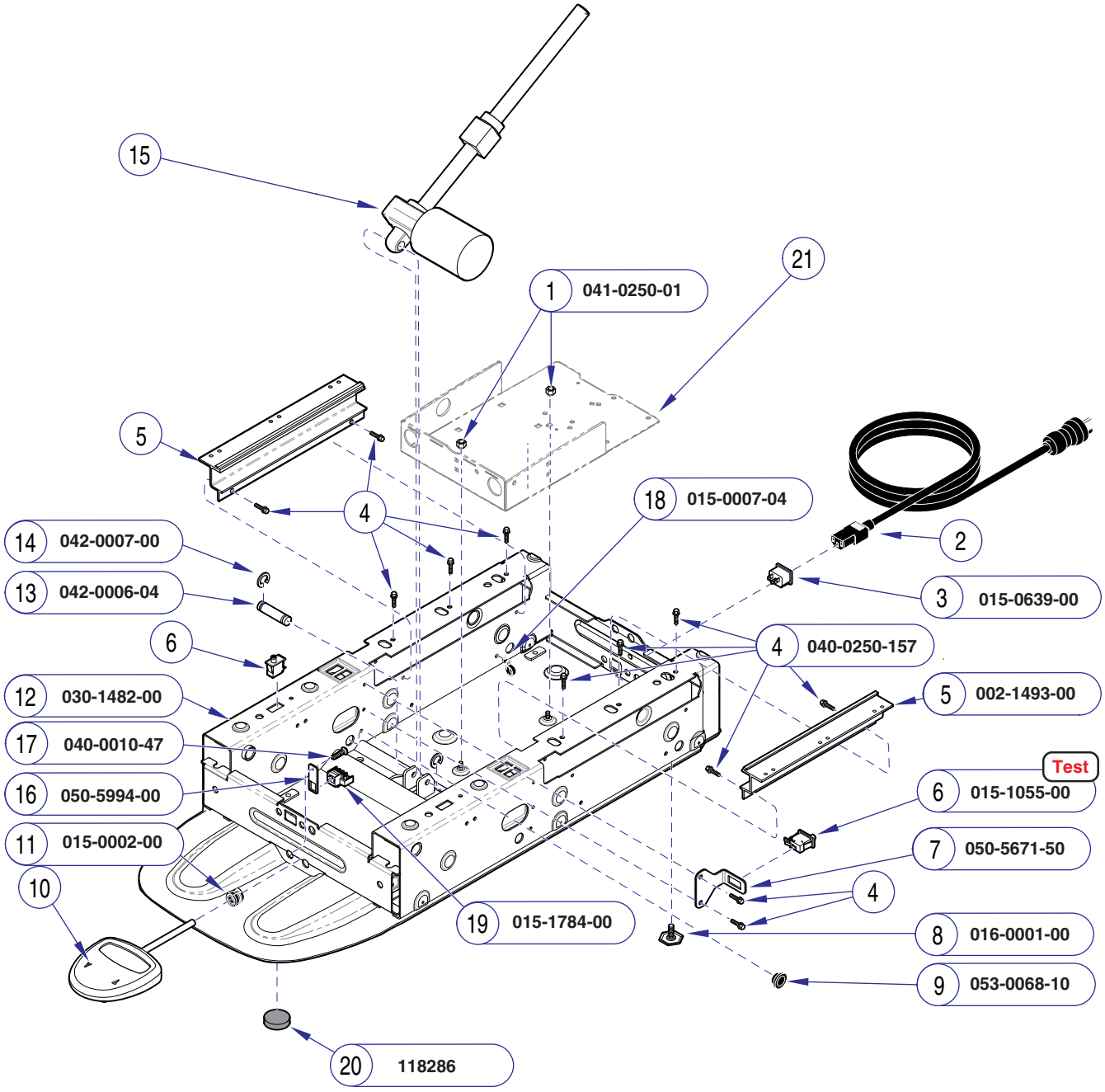

Refer To: — **Go To Page:**

Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
223 ..... E-28.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Kit, Scissor Rollers	1
6	Limit Switch	2
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing *(222 only)*	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Modular Plug Adapter Plate *(223 only)*	1
17	Screw *(223 only)*	1
18	Wrap-N-Tap Wire Clamp	3
19	Modular Plug *(223 Only)*	1
20	Non-Skid Pad	2
21	Refer to: *"PC board Enclosure"*	Ref

Always Specify Model & Serial Number

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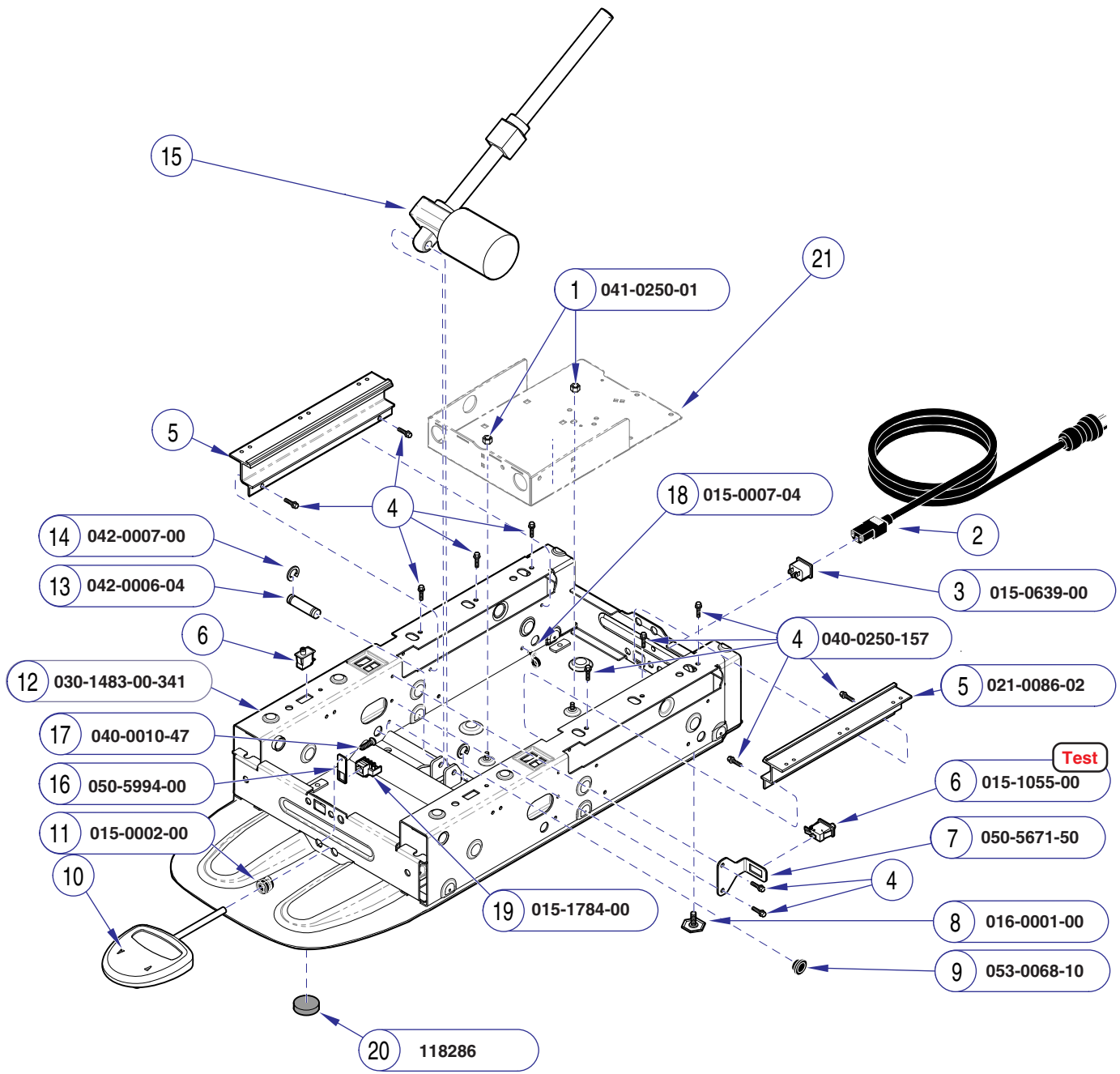

MA637405-1i

Refer To: — **Go To Page:**

Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
223 ..... E-28.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Slide Extrusion	2
6	Limit Switch	2
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing *(222 only)*	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Modular Plug Adapter Plate *(223 only)*	1
17	Screw *(223 only)*	1
18	Wrap-N-Tap Wire Clamp	3
19	Modular Plug *(223 Only)*	1
20	Non-Skid Pad	2
21	Refer to: *"PC board Enclosure"*	Ref

Always Specify Model & Serial Number

Models:	**222** *(-001 thru -014)*	**222** *(-017)*	**223** *(-001 thru -014)*
Serial Numbers:	V1158422 thru V1182653	V1158422 thru V1182653	V1158422 thru V1182653

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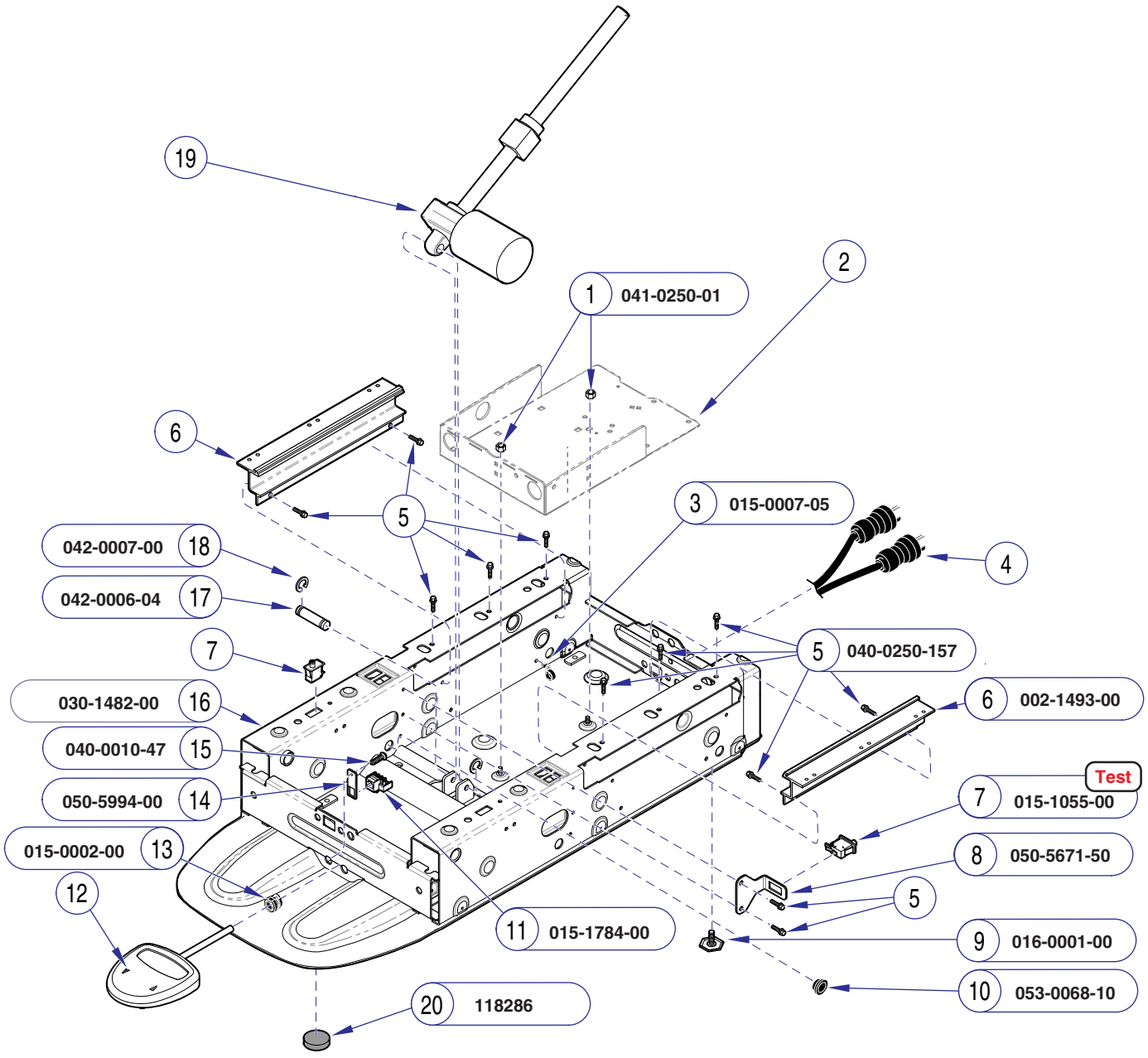

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Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
223 ..... E-28.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: *"Power Cords"*	1
5	Screw	12
6	Kit, Scissor Roller	1
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Modular Plug *(223 Only)*	1
12	Refer to: *"Foot Control"*	Ref
13	Strain Relief Bushing *(222 only)*	1
14	Modular Plug Adapter Plate *(223 only)*	1
15	Screw *(223 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

Ritter Base Components

Models: *Serial Numbers:*	***222*** *(-015 & -016)* *V58431 thru V798445*	***223*** *(-015 & -016)* *V58431 thru V798445*

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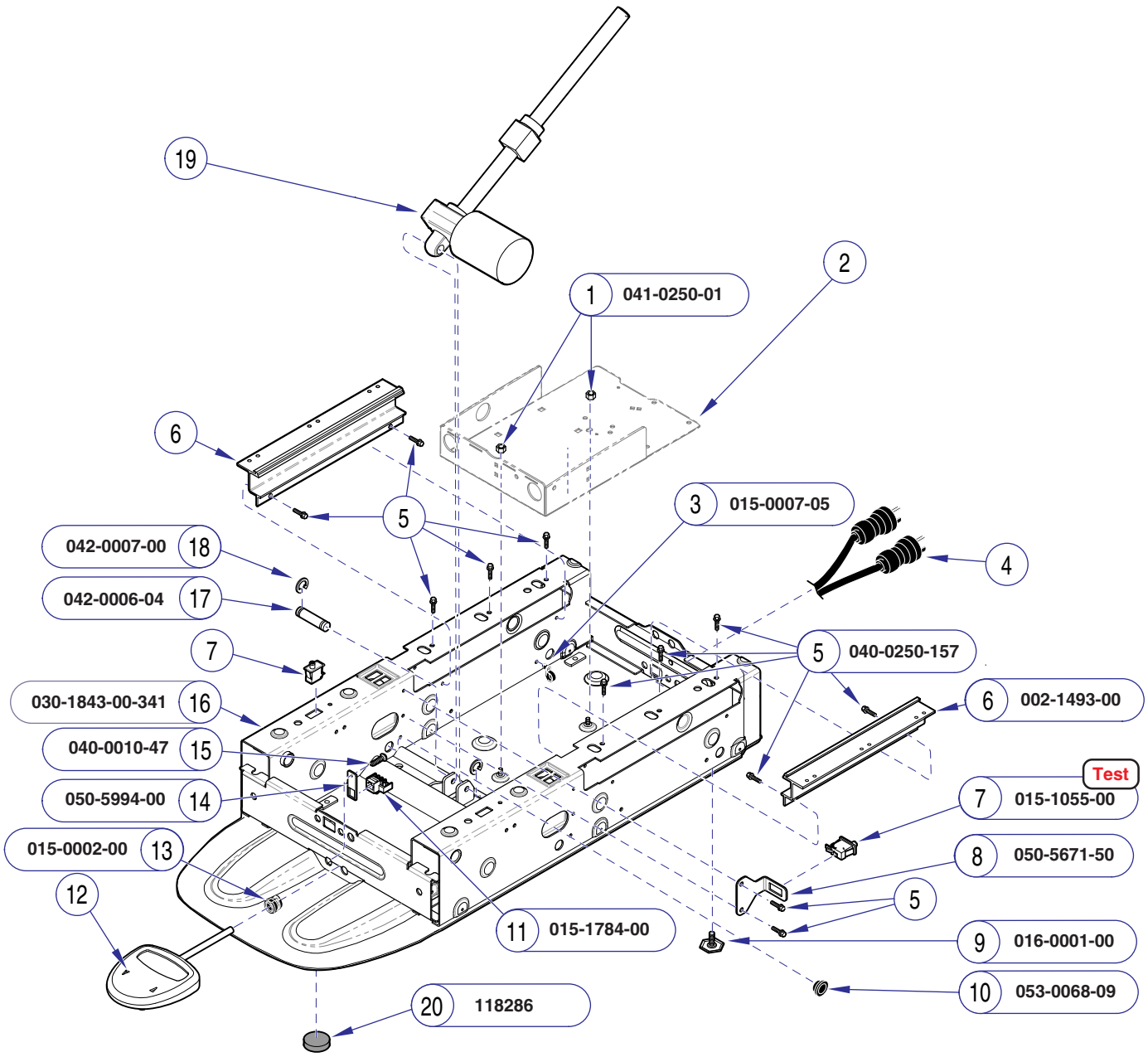

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Limit Switch Test Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
223 ..... E-28.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: *"Power Cords"*	1
5	Screw	12
6	Kit, Scissor Rollers	1
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Modular Plug *(223 Only)*	1
12	Refer to: *"Foot Control"*	Ref
13	Strain Relief Bushing *(222 only)*	1
14	Modular Plug Adapter Plate *(223 only)*	1
15	Screw *(223 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

Models: *Serial Numbers:*

***222** (-015 & -016)* *V798446 thru V1158421*

***223** (-015 & -016)* *V798446 thru V1158421*

Ritter Base Components

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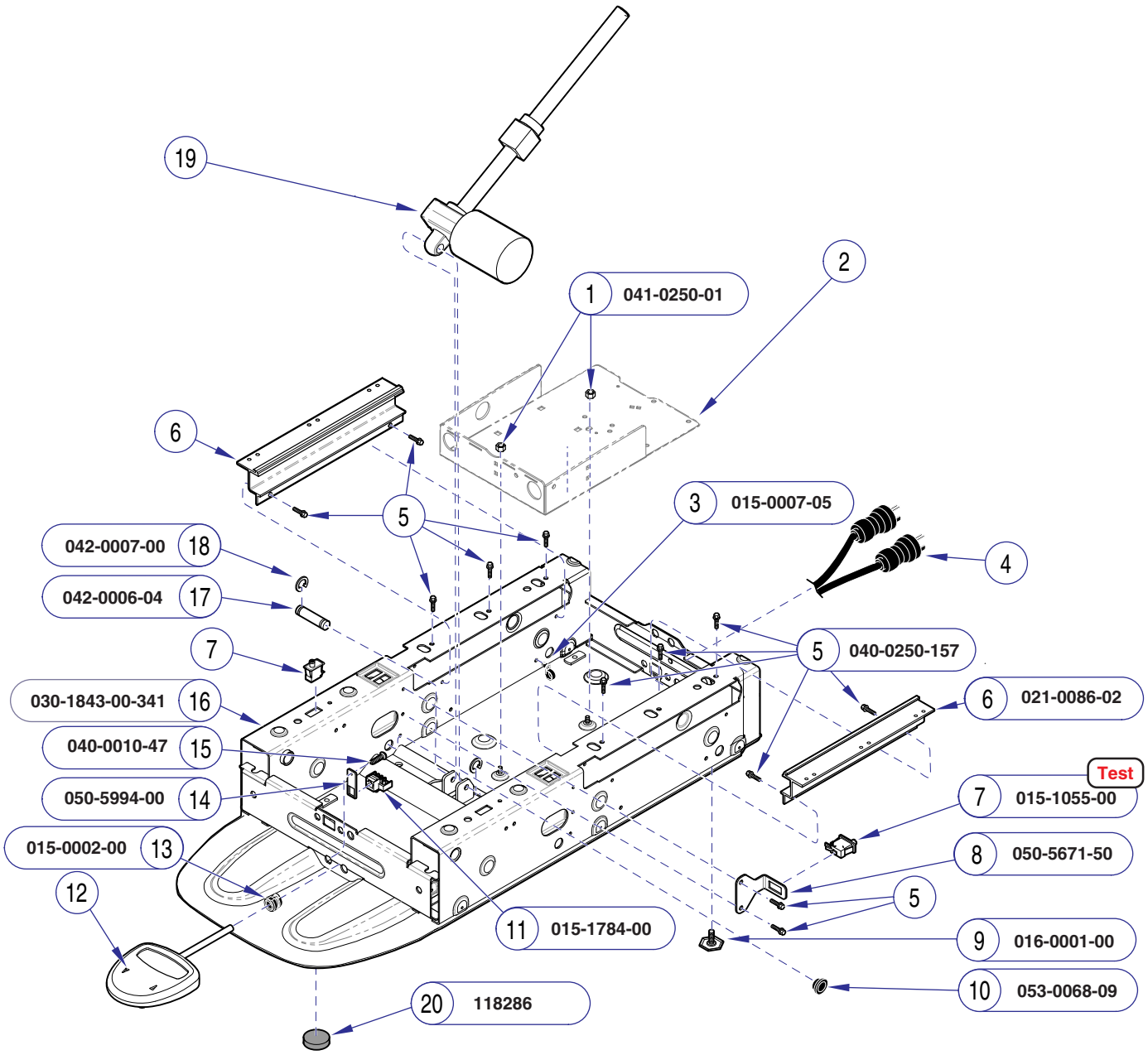

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Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
223 ..... E-28.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: *"Power Cords"*	1
5	Screw	12
6	Slide Extrusion	2
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Modular Plug *(223 Only)*	1
12	Refer to: *"Foot Control"*	Ref
13	Strain Relief Bushing *(222 only)*	1
14	Modular Plug Adapter Plate *(223 only)*	1
15	Screw *(223 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

Ritter Base Components

Models:	***222 (-015 & -016)***	***223 (-015 & -016)***
Serial Numbers:	*V1158422 thru V1182653*	*V1158422 thru V1182653*

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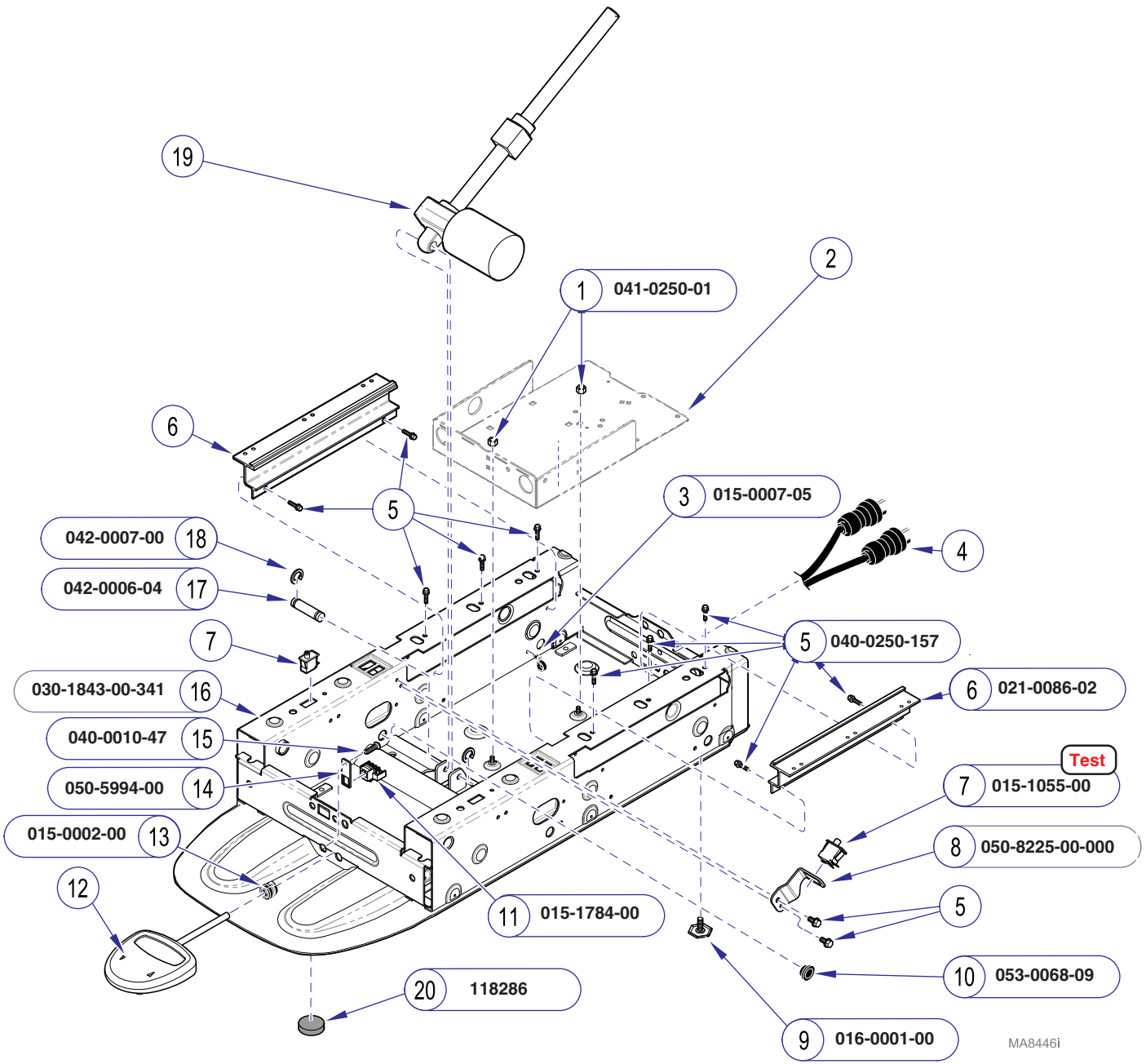

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Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
223 ..... E-28.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: *"Power Cords"*	1
5	Screw	12
6	Slide Extrusion	2
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Modular Plug *(223 Only)*	1
12	Refer to: *"Foot Control"*	Ref
13	Strain Relief Bushing *(222 only)*	1
14	Modular Plug Adapter Plate *(223 only)*	1
15	Screw *(223 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

Models:
Serial Numbers:

222 (-016)
V1182654 thru Present

223 (-016)
V1182654 thru Present

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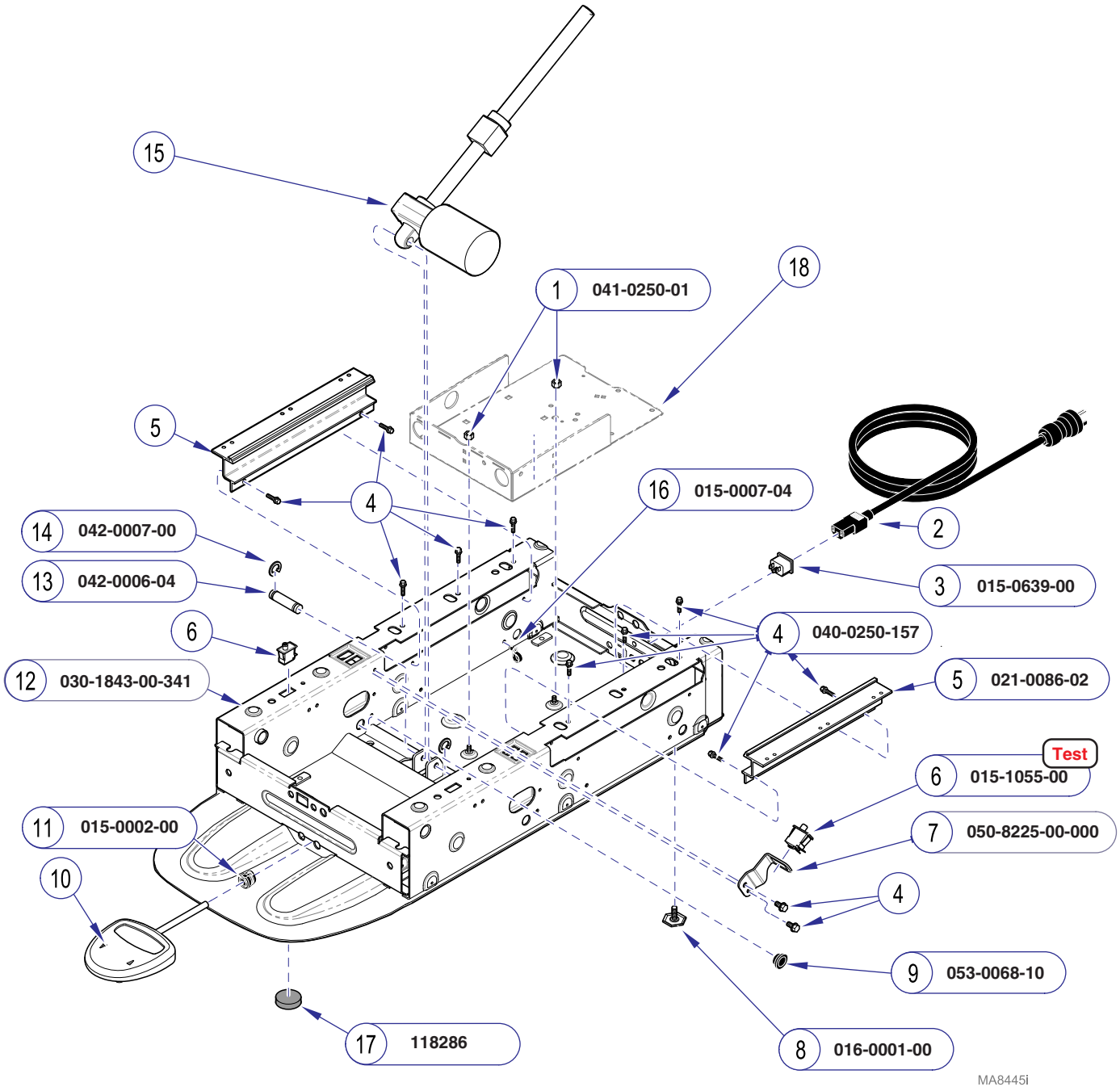

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Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
223 ..... E-28.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Slide Extrusion	2
6	Limit Switch	2
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Wrap-N-Tap Wire Clamp	3
17	Non-Skid Pad	2
18	Refer to: *"PC board Enclosure"*	Ref

Always Specify Model & Serial Number

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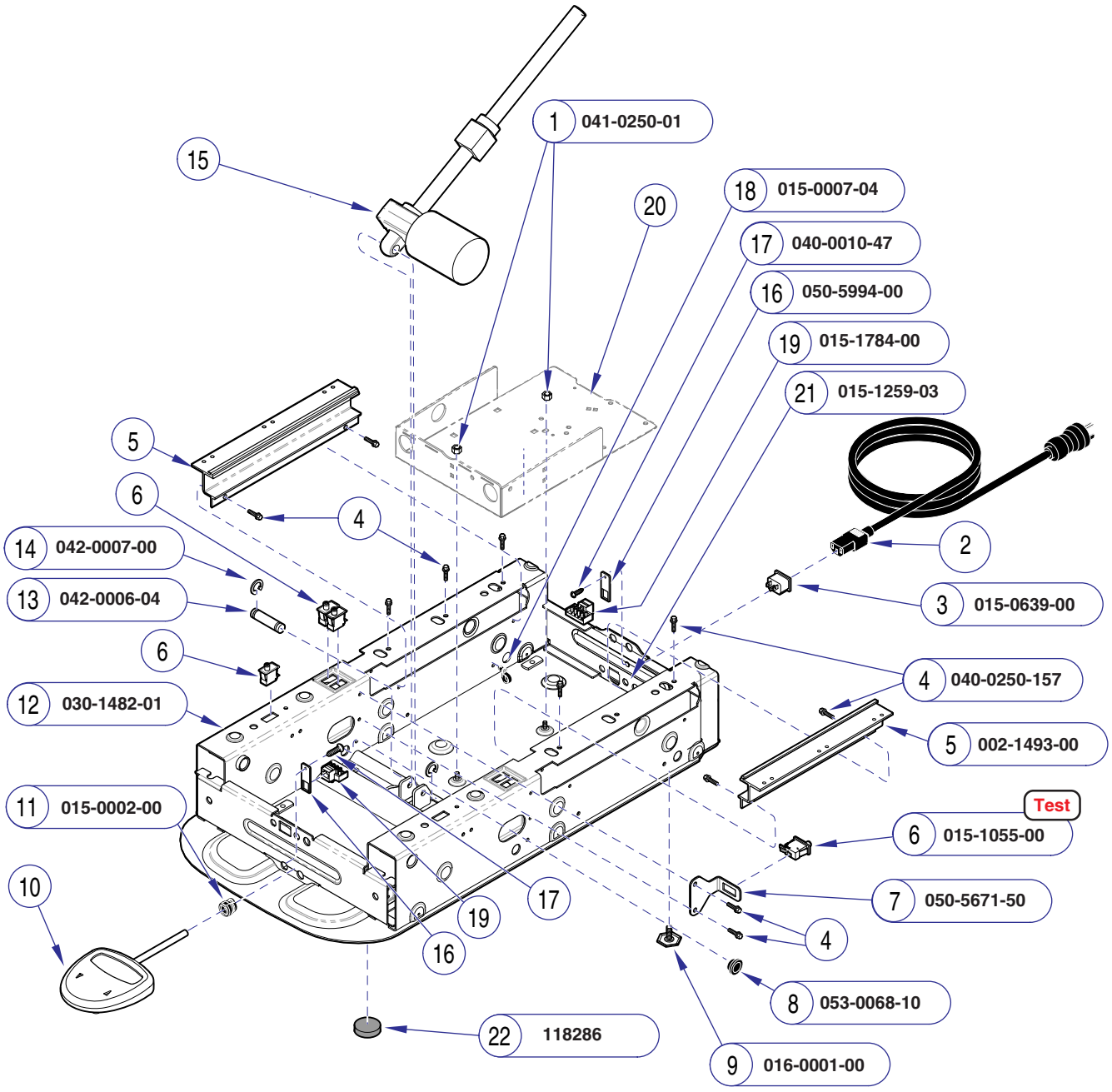

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Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
623 ..... E-29*
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Kit, Scissor Rollers	1
6	Limit Switch	4
7	Limit Switch Bracket	1
8	Snap Bushing	1
9	Leveling Screw	2
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing *(622 only)*	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Modular Plug Adapter Plate *(622)*	1
	Modular Plug Adapter Plate *(623)*	2
17	Screw *(622)*	1
	Screw *(623)*	2
18	Wrap-N-Tap Wire Clamp	3
19	Modular Plug	2
20	Refer to: *"PC board Enclosure"*	Ref
21	Fuseholder *(622 & 623-003/-004)*	2
22	Non-Skid Pad	2

Always Specify Model & Serial Number

Midmark Base Components

Models: *Serial Numbers:*

622 ***(-001 thru -006)***
SJ1000 thru present *SK1000 thru present*
V2200 thru V58433

623 ***(-001 thru -006)***
SL1000 thru present *SM1000 thru present*
V2200 thru V58433

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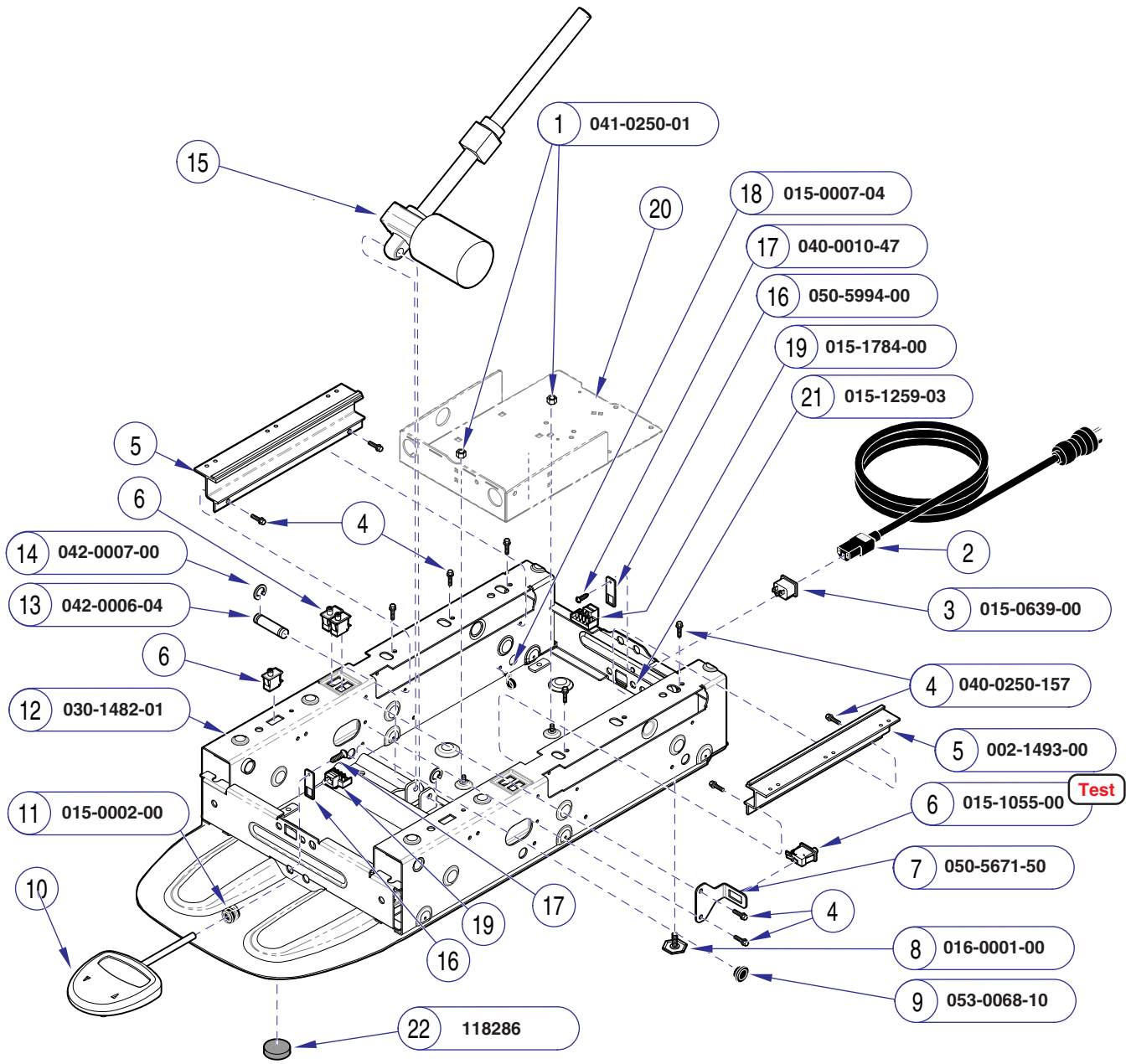

MA623305i

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Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
623 ..... E-29.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Kit, Scissor Rollers	1
6	Limit Switch	4
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing *(622 only)*	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Modular Plug Adapter Plate *(622)*	1
	Modular Plug Adapter Plate *(623)*	2
17	Screw *(622)*	1
	Screw *(623)*	2
18	Wrap-N-Tap Wire Clamp	3
19	Modular Plug *(622)*	1
	Modular Plug *(623)*	2
20	Refer to: *"PC board Enclosure"*	Ref
21	Fuseholder *(Export models only)*	2
22	Non-Skid Pad	2

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***622*** *(-001 thru -006)* *V58464 thru V1158421*	***623*** *(-001 thru -006)* *V58464 thru V1158421*	***623*** *(-009 & -010)* *V58464 thru V1158421*

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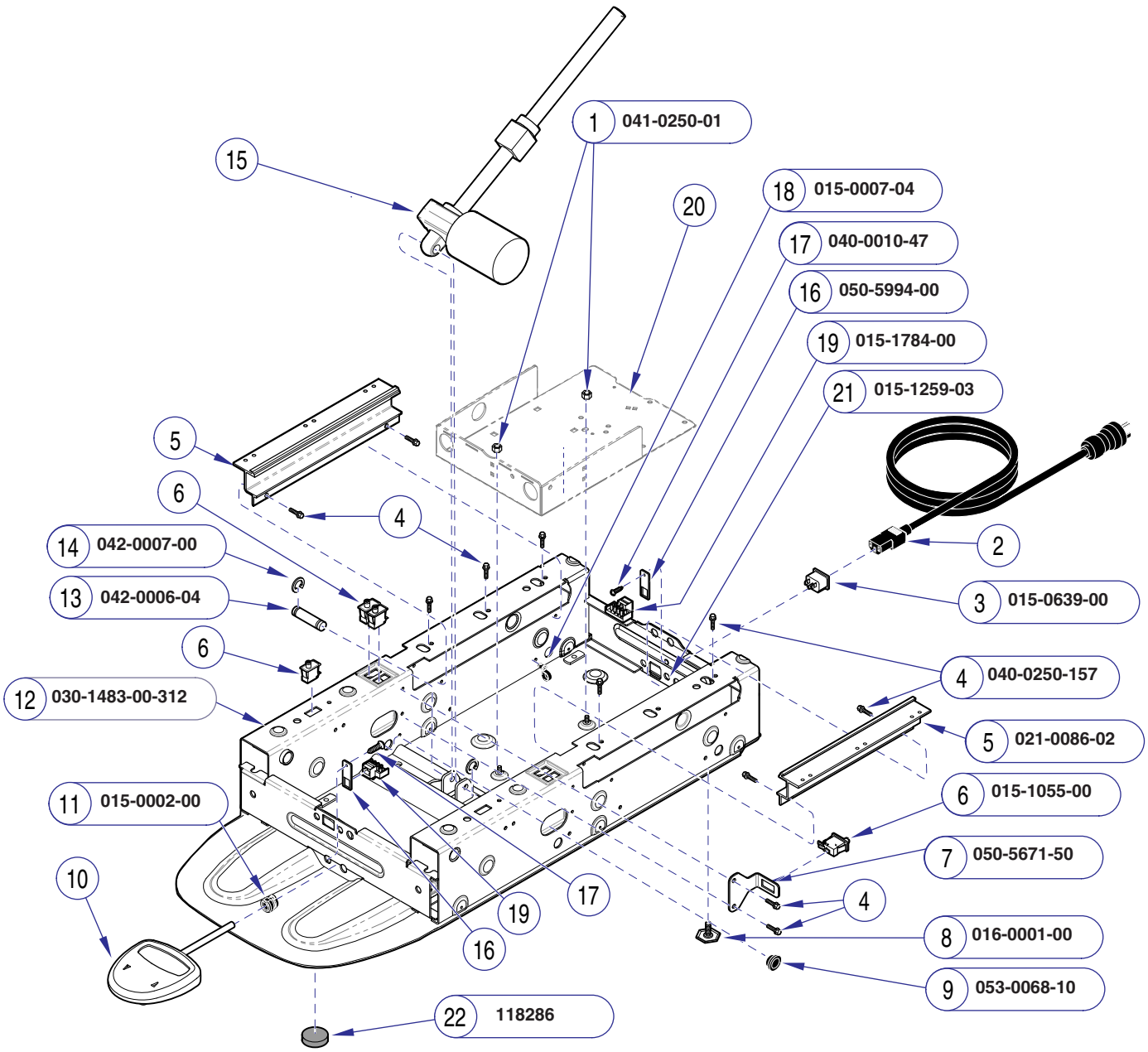

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Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
623 ..... E-29.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Slide Extrusion	2
6	Limit Switch	4
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing *(622 only)*	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Modular Plug Adapter Plate *(622)*	1
	Modular Plug Adapter Plate *(623)*	2
17	Screw *(622)*	1
	Screw *(623)*	2
18	Wrap-N-Tap Wire Clamp	3
19	Modular Plug *(622)*	1
	Modular Plug *(623)*	2
20	Refer to: *"PC board Enclosure"*	Ref
21	Fuseholder *(Export models only)*	2
22	Non-Skid Pad	2

Always Specify Model & Serial Number

Midmark Base Components

Models:	***622** (-001 thru -006)*	***623** (-001 thru -006)*	***623** (-009 & -010)*
Serial Numbers:	*V1158422 thru V1182653*	*V1158422 thru V1182653*	*V1158422 thru V1182653*

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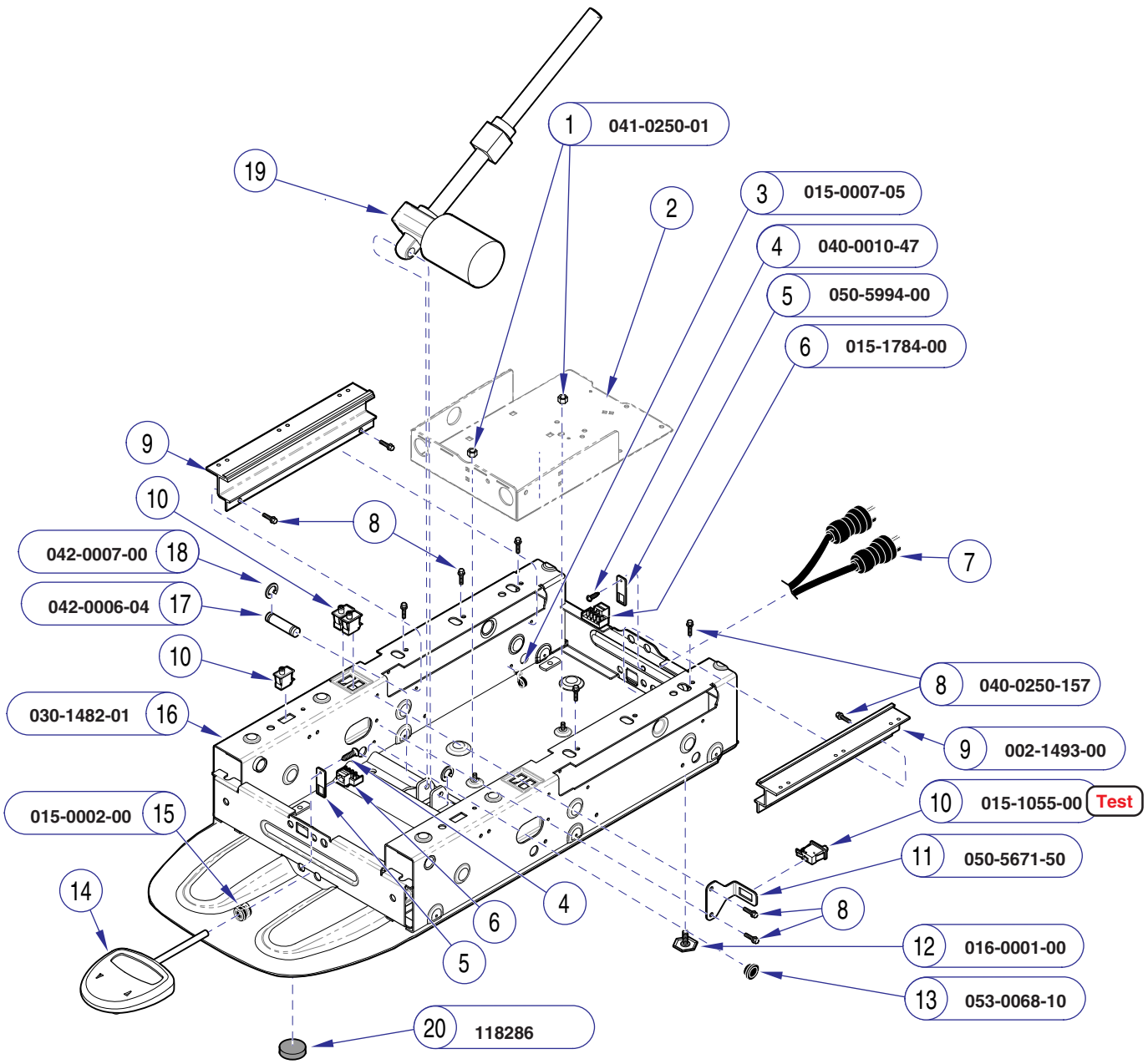

Refer To: — **Go To Page:**

Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
623 ..... E-29.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Screw *(623 only)*	2
5	Modular Plug Adapter Plate *(623 only)*	2
6	Modular Plug *(623 only)*	2
7	Refer to: *"Power Cords"*	1
8	Screw	12
9	Kit, Scissor Rollers	1
10	Limit Switch *(622)*	2
	Limit Switch *(623)*	4
11	Limit Switch Bracket	1
12	Leveling Screw	2
13	Snap Bushing	1
14	Refer to: *"Foot Control"*	Ref
15	Strain Relief Bushing *(622 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

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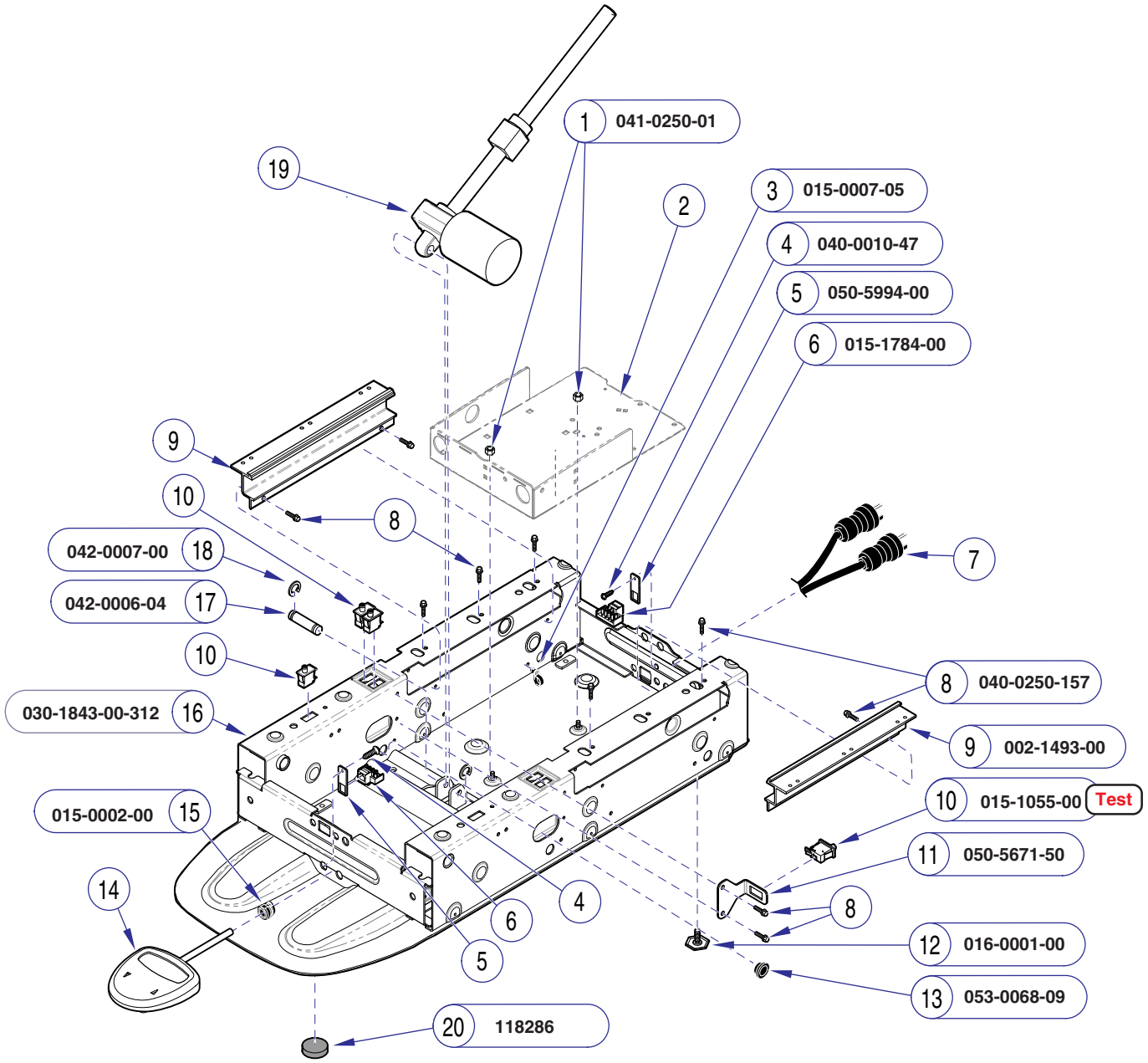

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Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
623 ..... E-29.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Screw *(623 only)*	2
5	Modular Plug Adapter Plate *(623 only)*	2
6	Modular Plug *(623 only)*	2
7	Refer to: *"Power Cords"*	1
8	Screw	12
9	Kit, Scissor Rollers	1
10	Limit Switch *(622)*	2
	Limit Switch *(623)*	4
11	Limit Switch Bracket	1
12	Leveling Screw	2
13	Snap Bushing	1
14	Refer to: *"Foot Control"*	Ref
15	Strain Relief Bushing *(622 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

Models: *Serial Numbers:*

622 *(-007 & -008)* *V798446 thru V1158421*

623 *(-007 & -008)* *V798446 thru V1158421*

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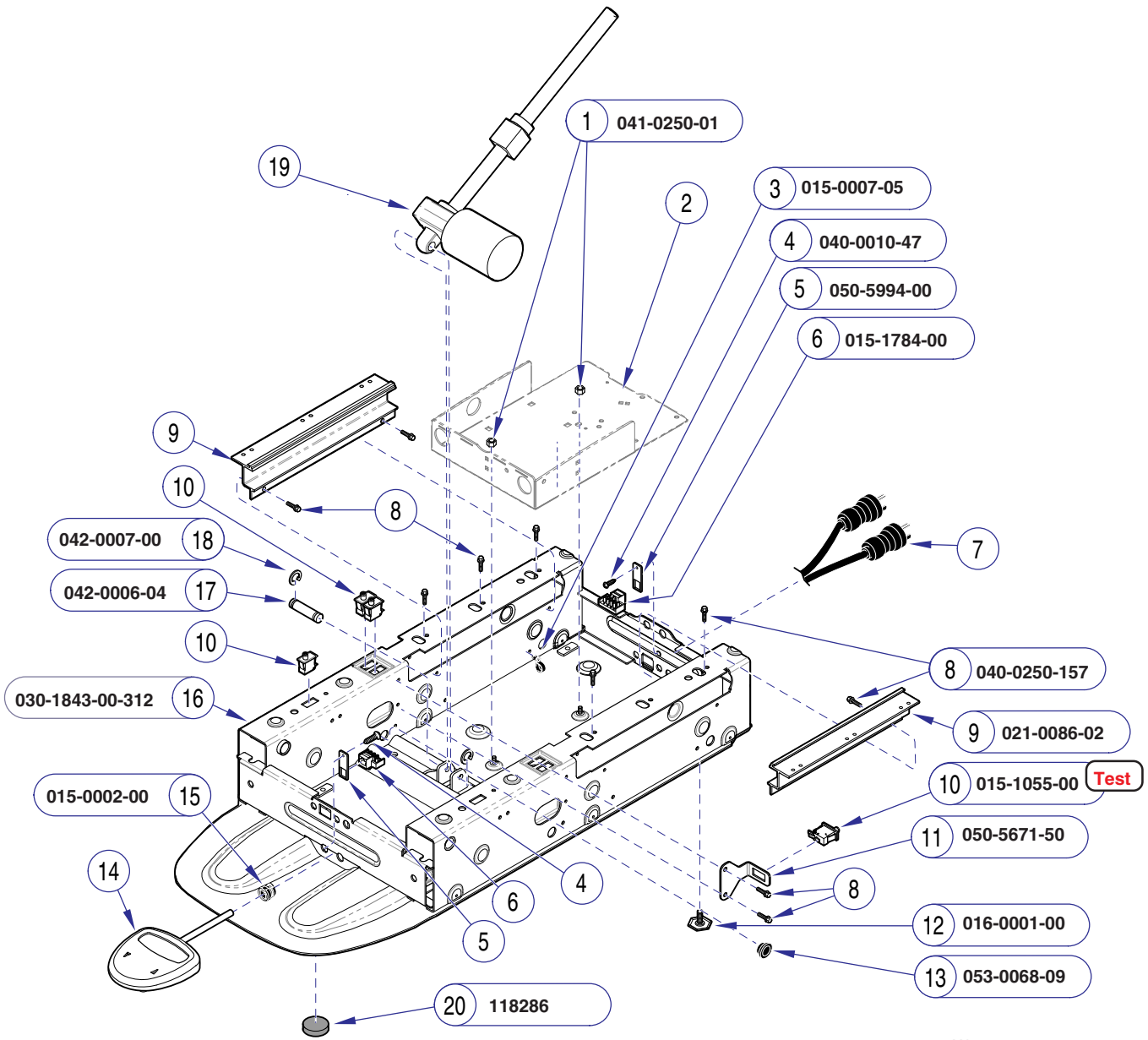

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Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
623 ..... E-29.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Screw *(623 only)*	2
5	Modular Plug Adapter Plate *(623 only)*	2
6	Modular Plug *(623 only)*	2
7	Refer to: *"Power Cords"*	1
8	Screw	12
9	Slide Extrusion	2
10	Limit Switch *(622)*	2
	Limit Switch *(623)*	4
11	Limit Switch Bracket	1
12	Leveling Screw	2
13	Snap Bushing	1
14	Refer to: *"Foot Control"*	Ref
15	Strain Relief Bushing *(622 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

Midmark Base Components

Models: Serial Numbers:	***622*** *(-007 & -008)* V1158422 thru V1182653	***623*** *(-007 & -008)* V1158422 thru V1182653

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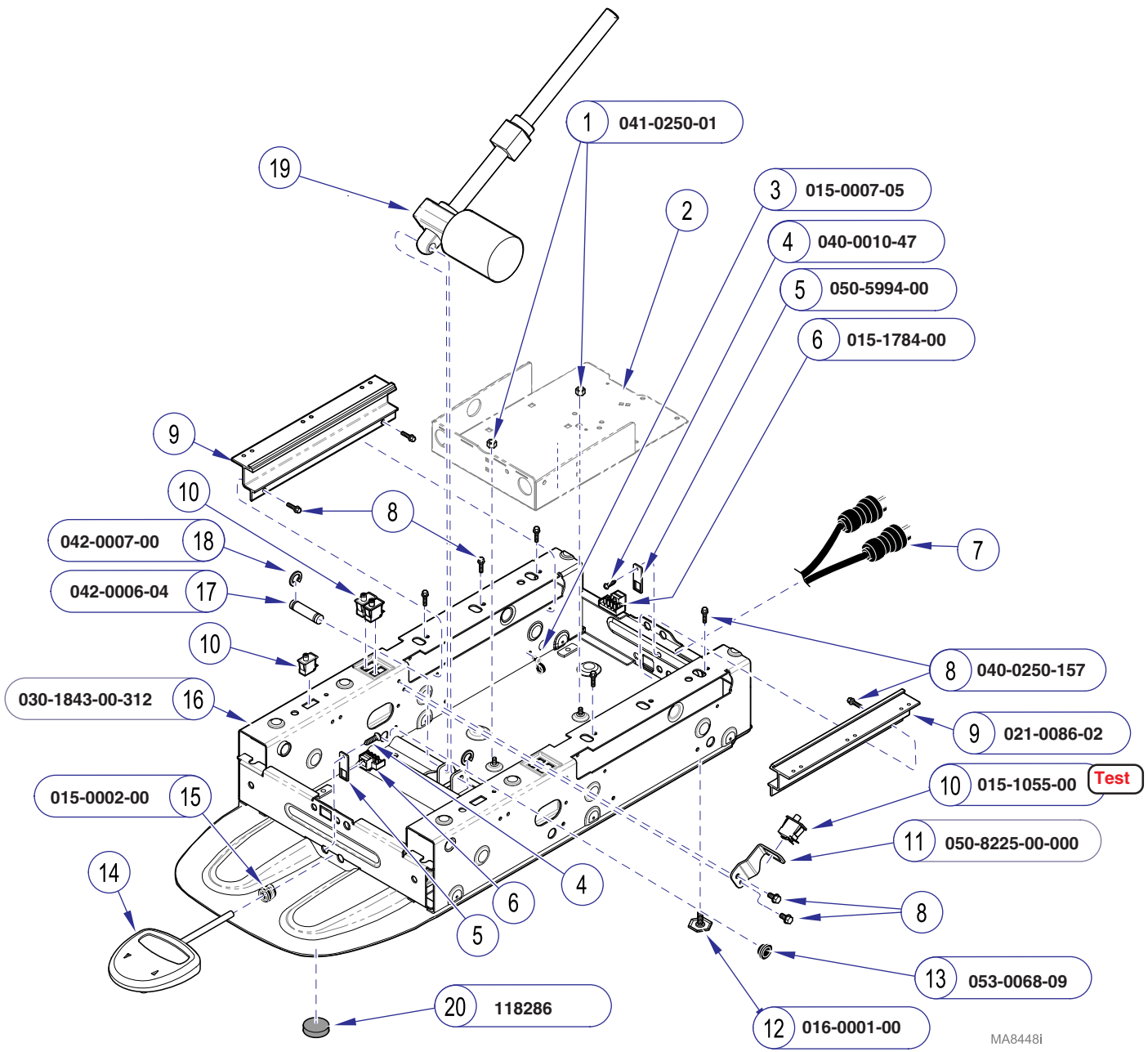

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Limit Switch Test B-5
Section D - Wiring Diagrams D-1
Foot Control:
222 / 622 ..... E-27
623 ..... E-29.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"PC board Enclosure"*	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Screw *(623 only)*	2
5	Modular Plug Adapter Plate *(623 only)*	2
6	Modular Plug *(623 only)*	2
7	Refer to: *"Power Cords"*	1
8	Screw	12
9	Slide Extrusion	2
10	Limit Switch *(622)*	2
	Limit Switch *(623)*	4
11	Limit Switch Bracket	1
12	Leveling Screw	2
13	Snap Bushing	1
14	Refer to: *"Foot Control"*	Ref
15	Strain Relief Bushing *(622 only)*	1
16	Base Weldment	1
17	Clevis Pin	1
18	E-Ring	2
19	Refer to: *"Base Actuator"*	Ref
20	Non-Skid Pad	2

Always Specify Model & Serial Number

Models:
Serial Numbers:

623 (-008)
V1182654 thru Present

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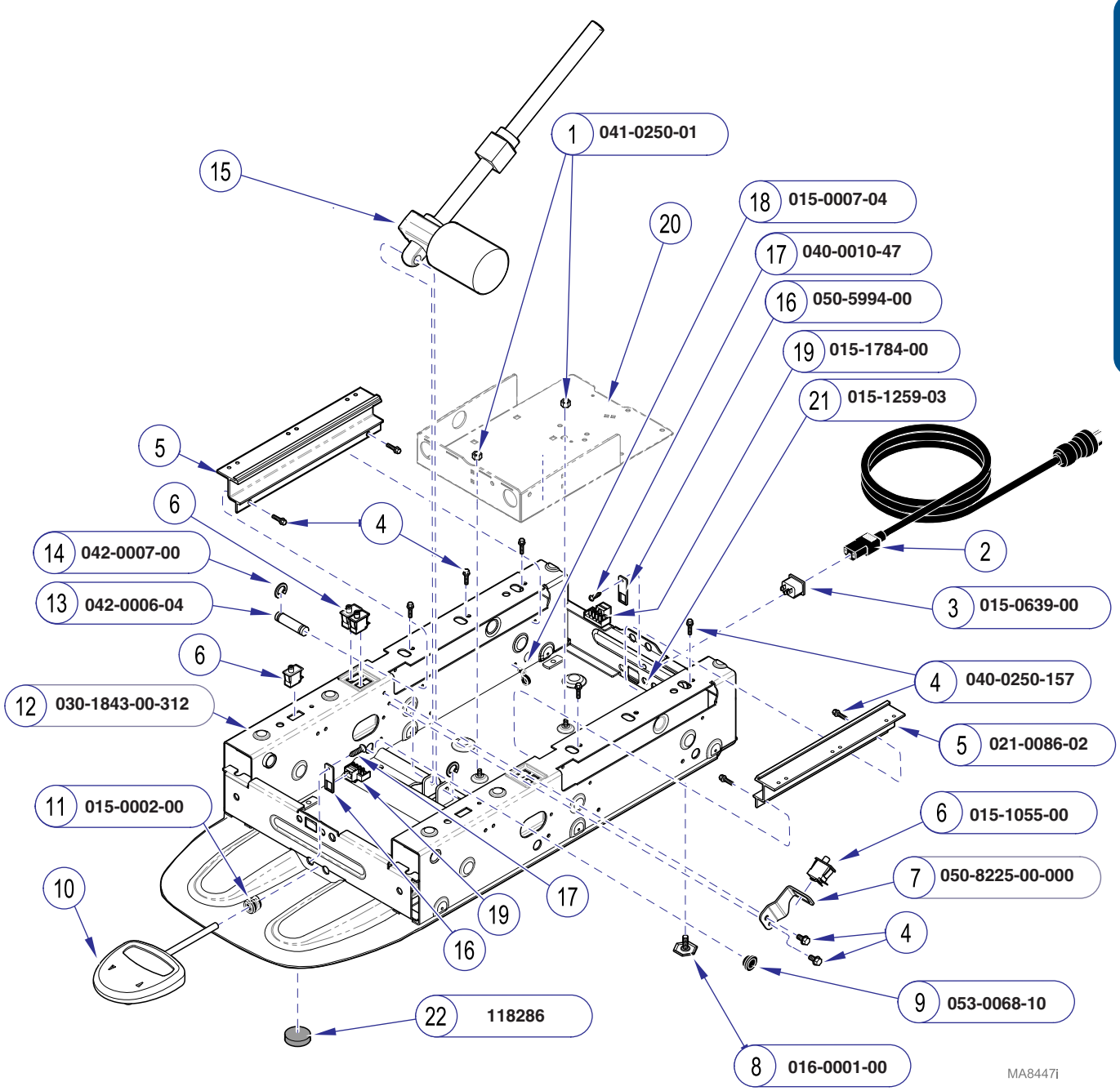

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Limit Switch Test B-5
Foot Control:
222 / 622 ..... E-27
623 ..... E-29.1
Base Actuator E-22
PC Board Enclosure:
Manual Back models E-23
Power Back models E-24
Power Cords E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: *"Power Cords"*	1
3	IEC Inlet	1
4	Screw	12
5	Slide Extrusion	2
6	Limit Switch	4
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: *"Foot Control"*	Ref
11	Strain Relief Bushing *(622 only)*	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: *"Base Actuator"*	Ref
16	Modular Plug Adapter Plate *(622)*	1
	Modular Plug Adapter Plate *(623)*	2
17	Screw *(622)*	1
	Screw *(623)*	2
18	Wrap-N-Tap Wire Clamp	3
19	Modular Plug *(622)*	1
	Modular Plug *(623)*	2
20	Refer to: *"PC board Enclosure"*	Ref
21	Fuseholder *(Export models only)*	2
22	Non-Skid Pad	2

Always Specify Model & Serial Number

Midmark Base Components

Models: ***623 (-009 thru -011)***
Serial Numbers: *V1182654 thru Present*

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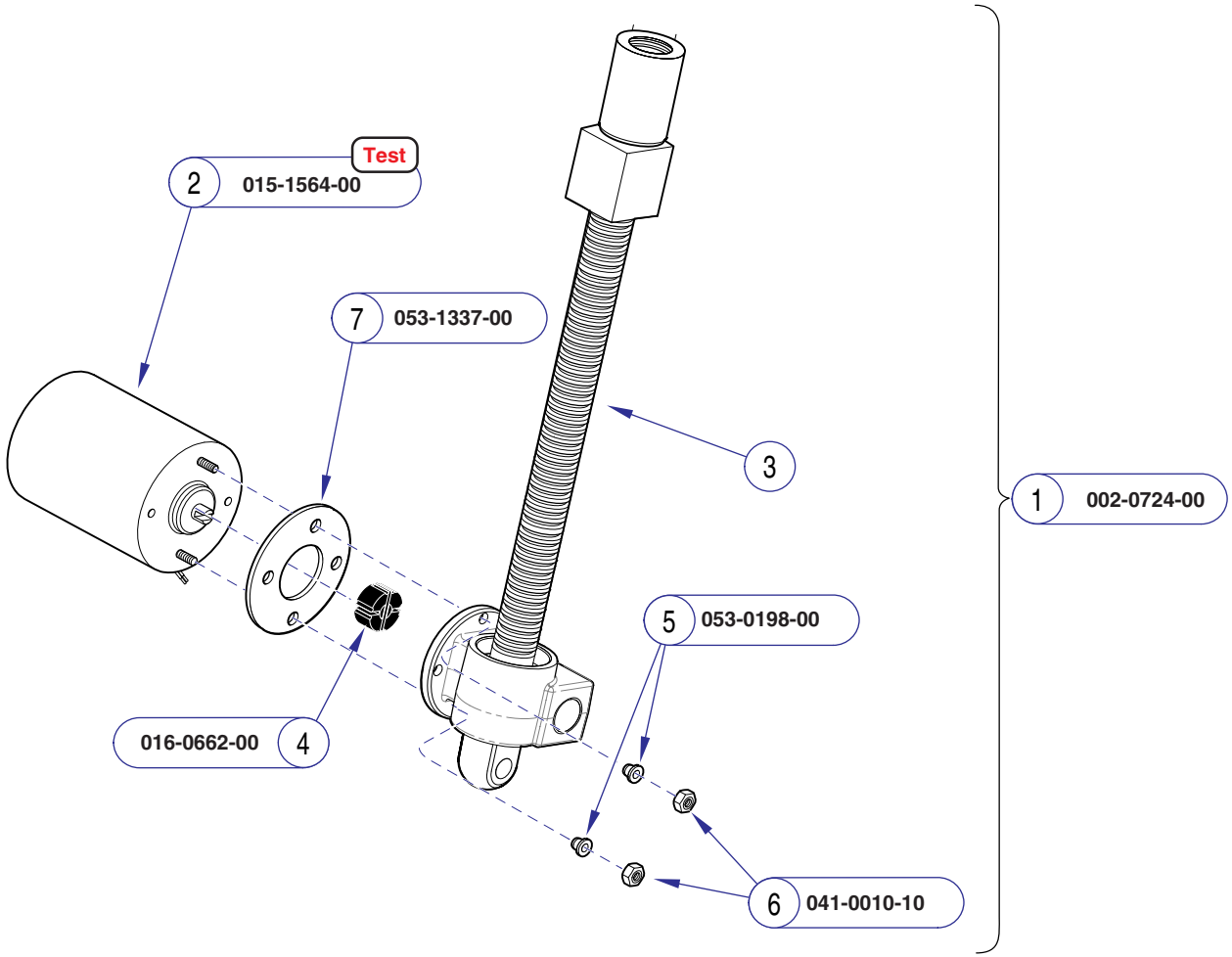
Refer To: Go To Page:
Actuator Test B-12



MA610900i

Item	Description	Qty.
1	Actuator Assembly Kit *(includes items 2 thru 6)*	1
2	• Motor	1
3	• Ball Screw Asm. *(not available separately)*	1
4	• Coupler	1
5	• Shoulder Washer	2
6	• Nut	2
7	• Isolator	1

Always Specify Model & Serial Number

Models: *Serial Numbers:* ***All*** *All*

Base Actuator

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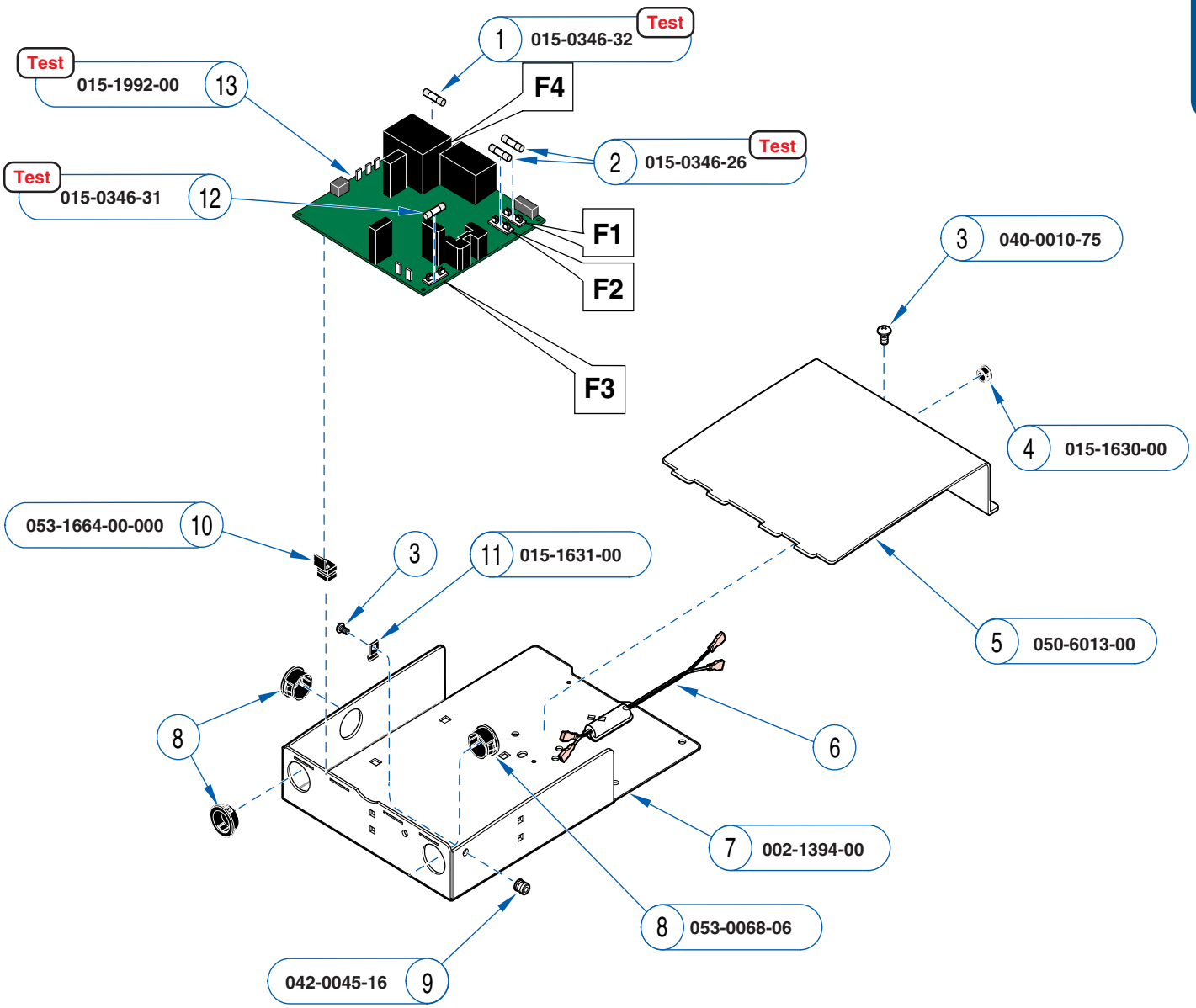
Refer To: *Go To Page:*

Fuse Test B-3
Main PC Board Test B-21
Section D - Wiring Diagrams D-1



MA637502i

Item	Description	Qty.
1	Slo-blo Fuse *(.18 A, 250v, .25" x 1.25")*	1
2	Slo-blo Fuse *(10 amp, 250v, .25" x 1.25")*	2
3	Screw *(10-24 x 3/8")*	2
4	Split Grommet *(older models only)*	1
5	Cover	1
6	Refer to: *Section D - Wiring Diagrams*	Ref
7	Control Panel Housing Kit	1
8	Bushing	3
9	Nutsert	2
10	PC Board Standoff	7
11	Cable Clamp	1
12	Slo-blo Fuse *(5 amp, 250v, .25" x 1.25")*	1
13	PC Board *(1 function)*	1

Always Specify Model & Serial Number

PC Board Enclosure
(Manual Back Models)

Models:	***222 (all)***	***622 (all)***
Serial Numbers:	*All*	*All*

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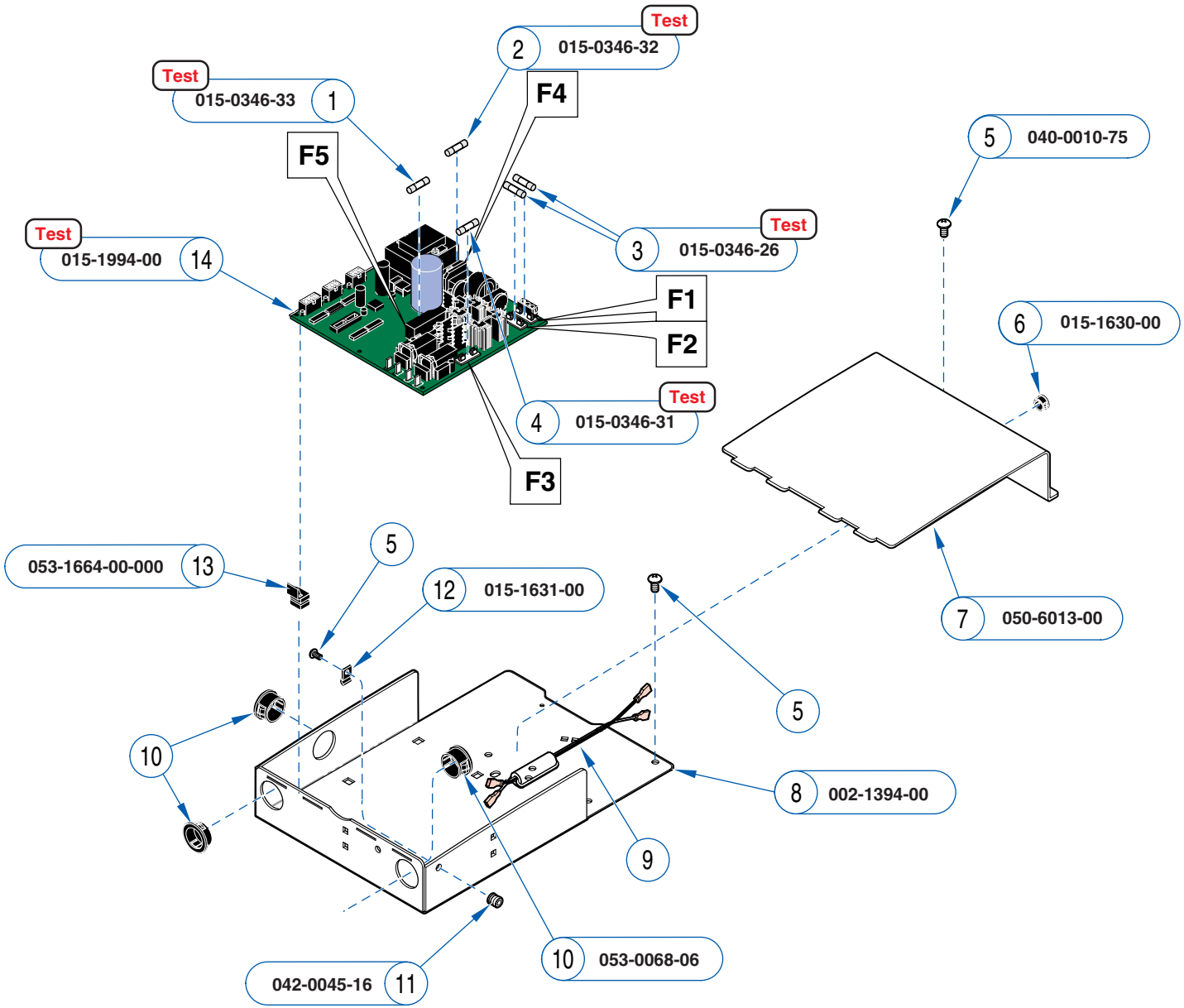
Refer To: *Go To Page:*
Fuse Test B-3
Main PC Board Test B-21
Section D - Wiring Diagrams D-1



MA637601i

Item	Description	Qty.
1	Slo-blo Fuse *(4 amp, 250v, .25" x 1.25")*	1
2	Slo-blo Fuse *(.18 amp, 250v, .25" x 1.25")*	1
3	Slo-blo Fuse *(10 amp, 250v, .25" x 1.25")*	2
4	Slo-blo Fuse *(5 amp, 250v, .25" x 1.25")*	1
5	Screw *(10-24 x .37")*	5
6	Split Grommet *(older models only)*	1
7	Cover *(item 6 - not required)*	1
8	Control Panel Housing Kit	1
9	Refer to: *Section D - Wiring Diagrams*	Ref
10	Bushing	3
11	Nutsert	2
12	Cable Clamp	1
13	PC Board Standoff	7
14	PC Board *(2 function)*	1

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***223 (all)*** *All*	***623 (all)*** *All*

PC Board Enclosure
(Power Back Models)

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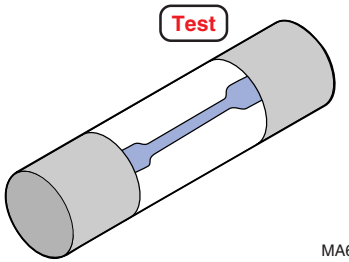
Fuse Test B-3
Section D - Wiring Diagrams D-1



MA637700i

Fuse:	Location: *(See next page)*	Functions affected:	Rating:	Midmark Part Number:
Primary Fuses (2)	Main PC Board [F1 & F2]	All	10A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-26
Base Motor Fuse	Main PC Board [F3]	Base Up / Base Down	5A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-31
Transformer Fuse	Main PC Board [F4]	All	187mA, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-32
Back Motor Fuse ***(223 / 623 only)***	Main PC Board [F5]	Back Up / Back Down	4A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-33
Drawer Heater Fuses (2) ***(optional)***	Distribution Board	Drawer Heater	800mA, 250V, Slo-Blo, 5 x 20 mm	015-0346-25
Upholstery Heater Fuses (2) ***(optional)***	Upholstery PC Board	Upholstery Heater	1/2 A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-05
230 Volt Transformer Fuses (2) ***222 (-009, -010) / 223 (-009, -010) 622 (-003, -004) / 623 (-003, -004)***	IEC Inlet	All	4A, 250V, Slo-Blo, 5 x 20 mm Interrupt Rating 40A @ 250V	015-0346-01
230 Volt Transformer Fuses (2) ***222 (-017) / 623 (-009, -010, -011)***	IEC Inlet	All	4A, 250V, Slo-Blo, 5 x 20 mm High Breaking Capacity	015-0346-51
Isolation Transformer Fuses (2) ***(Canadian models only)***	IEC Inlet	All	6.3 A, 250V, Slo-Blo, 5 x 20 mm	015-0346-20

Always Specify Model & Serial Number

Fuses

Models: ***All***
Serial Numbers: *All*

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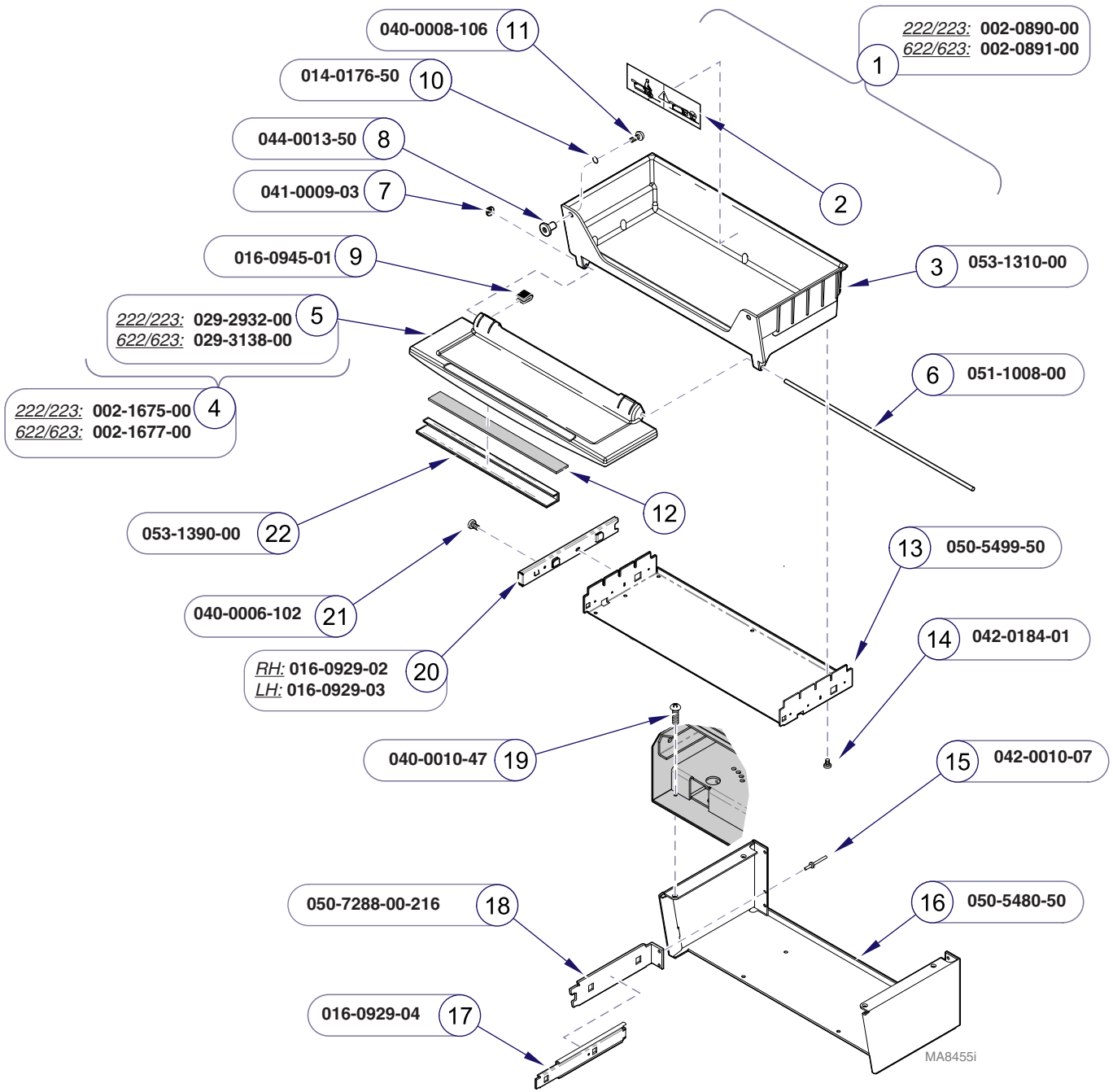

Refer To: **Go To Page:**

Upholstery - Midmark:
Premium E-8*
Ultra Premium E-9*
Label Location E-38

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Exam Assistant® Drawer Assembly *(includes items 2 thru 11)*	1
2	• Refer to: *"Label Location"*	Ref
3	• Drawer	1
4	• Drawer Front & Hardware Kit *(includes items 5 thru 7)*	*1*
5	•• Drawer Front Assembly	1
6	•• Pivot Rod	1
7	•• Push Nut	2
8	• Nut	2
9	• Edge Trim	2
10	• O-ring *(early models only - not required)*	2
11	• Screw *(#8 x 32 x 1/4")*	2
12	Color Insert - *622/623 only* Refer to: *Upholstery - Midmark*	Ref
13	Drawer Heat Sink	1
14	Screw *(M4-1.79 x 12mm)*	5
15	Pop Rivet	4
16	Drawer Housing	1
17	Outer and Middle Slide Assy.	2
18	Drawer Slide Bracket	2
19	Screw	4
20	Inner Slide *(RH shown)* *Item #21 used only on models w/drawer htr.*	2
21	Screw *(#6-32 x 3/16" Phillips)*	1
22	Clear Drawer Pull - *622/623 only*	1

Always Specify Model & Serial Number

Models: Serial Numbers:	***222 (all)*** *V2200 thru V1308218*	***223 (all)*** *V2200 thru V1308233*	***622 (all)*** *V2200 Thru Present*	***623 (all)*** *V2200 thru V1321171*

Exam Assistant® Drawer Assembly

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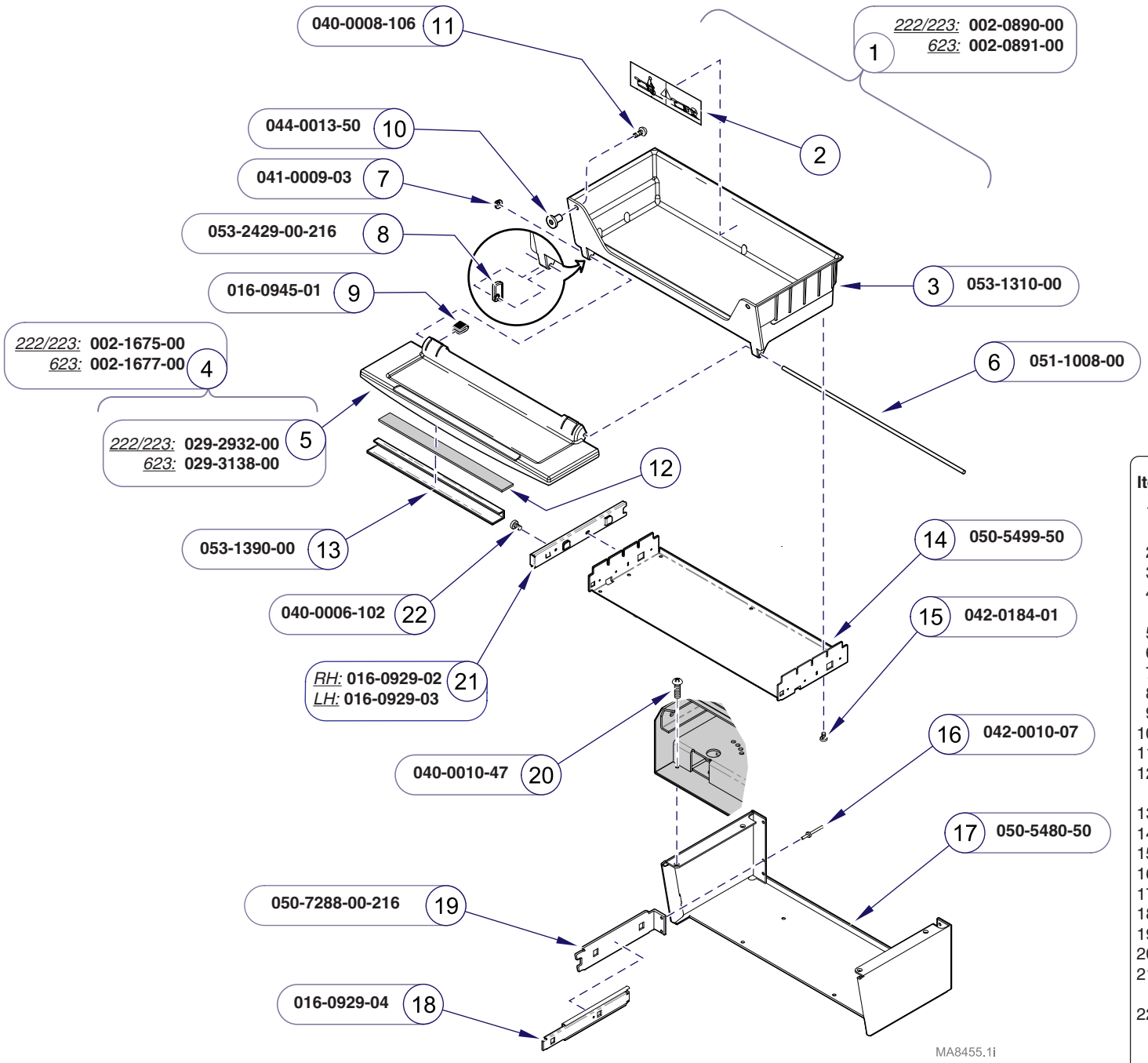

Item	Description	Qty.
1	Exam Assistant® Drawer Assembly *(includes items 2 thru 11)*	1
2	• Refer to: *"Label Location"*	Ref
3	• Drawer	1
4	• Drawer Front & Hardware Kit *(includes items 5 thru 8)*	1
5	•• Drawer Front Assembly	1
6	•• Pivot Rod	1
7	•• Push Nut	2
8	•• Fold Down Drawer Stop	2
9	• Edge Trim	2
10	• Nut	2
11	• Screw *(#8 x 32 x 1/4")*	2
12	Color Insert - *622/623 only* Refer to: *Upholstery - Midmark*	Ref
13	Clear Drawer Pull - *622/623 only*	1
14	Drawer Heat Sink	1
15	Screw *(M4-1.79 x 12mm)*	5
16	Pop Rivet	4
17	Drawer Housing	1
18	Inner Slide *(RH shown)*	2
19	Drawer Slide Bracket	2
20	Screw	4
21	Outer and Middle Slide Assy. *Item #22 used only on models w/drawer htr.*	2
22	Screw *(#6-32 x 3/16" Phillips)*	1

Always Specify Model & Serial Number

Exam Assistant® Drawer Assembly

Models: Serial Numbers:	***222 (all)*** V1308219 thru Present	***223 (all)*** V1308234 thru Present	***623 (all)*** V1321172 Thru Present

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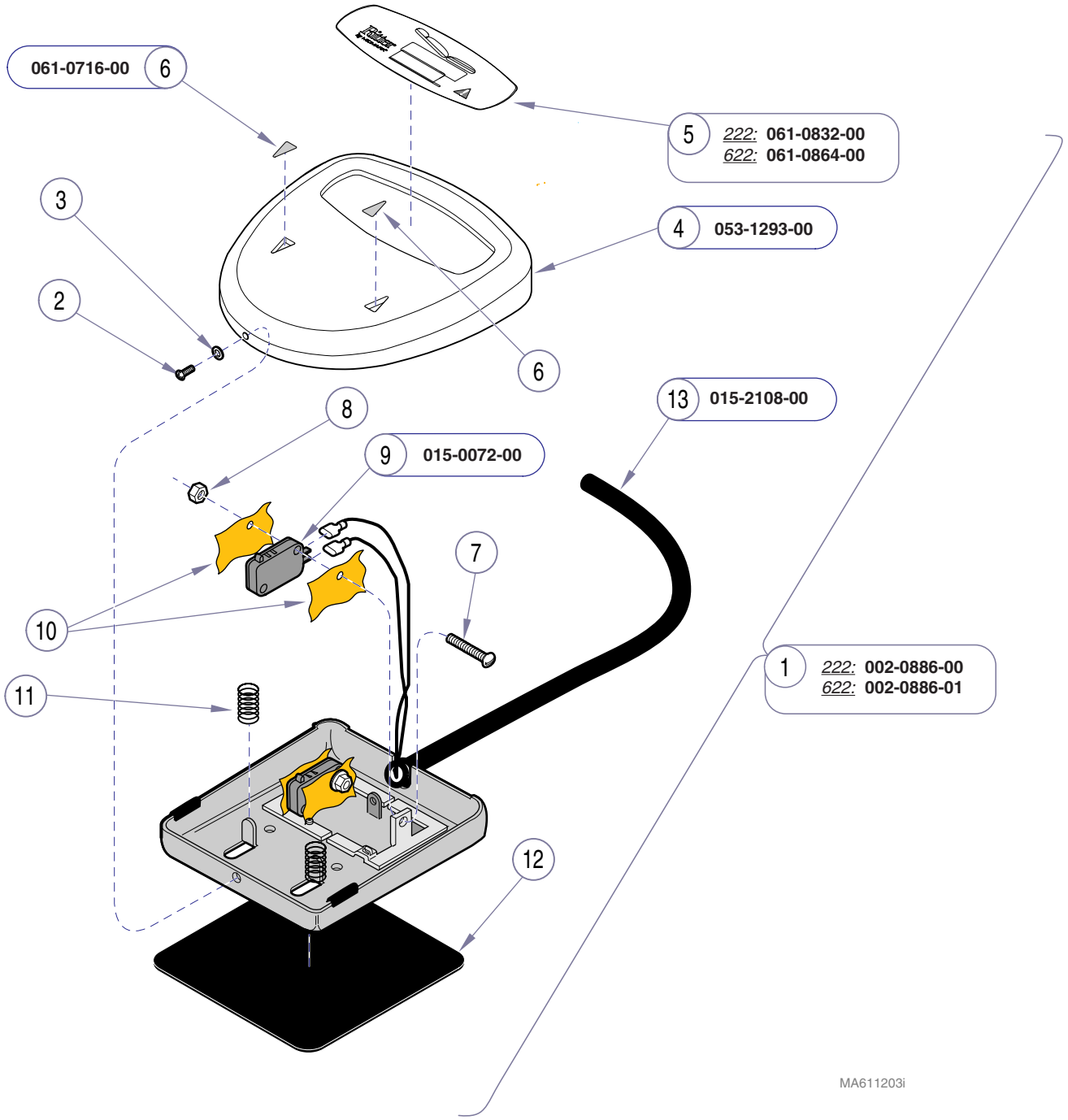
Foot Switch Test - *222/622* B-6



Item	Description	Qty.
1	Single Function Foot Control *(incl. items 2 thru 13)*	*1*
2	• Screw *(not available)*	1
3	• Washer *(not available)*	1
4	• Footswitch Cover	1
5	• Label	1
6	• Up / Down Arrow	2
7	• Screw *(not available)*	2
8	• Nut *(not available)*	2
9	• Foot Control Switch	2
10	• Insulator *(not available)*	2
11	• Spring *(not available)*	2
12	• Rubber Pad *(not available)*	1
13	• Cable	1

Always Specify Model & Serial Number

Foot Control
(222 / 622)

Models:	***222 (all)***	***622 (all)***
Serial Numbers:	*All*	*All*

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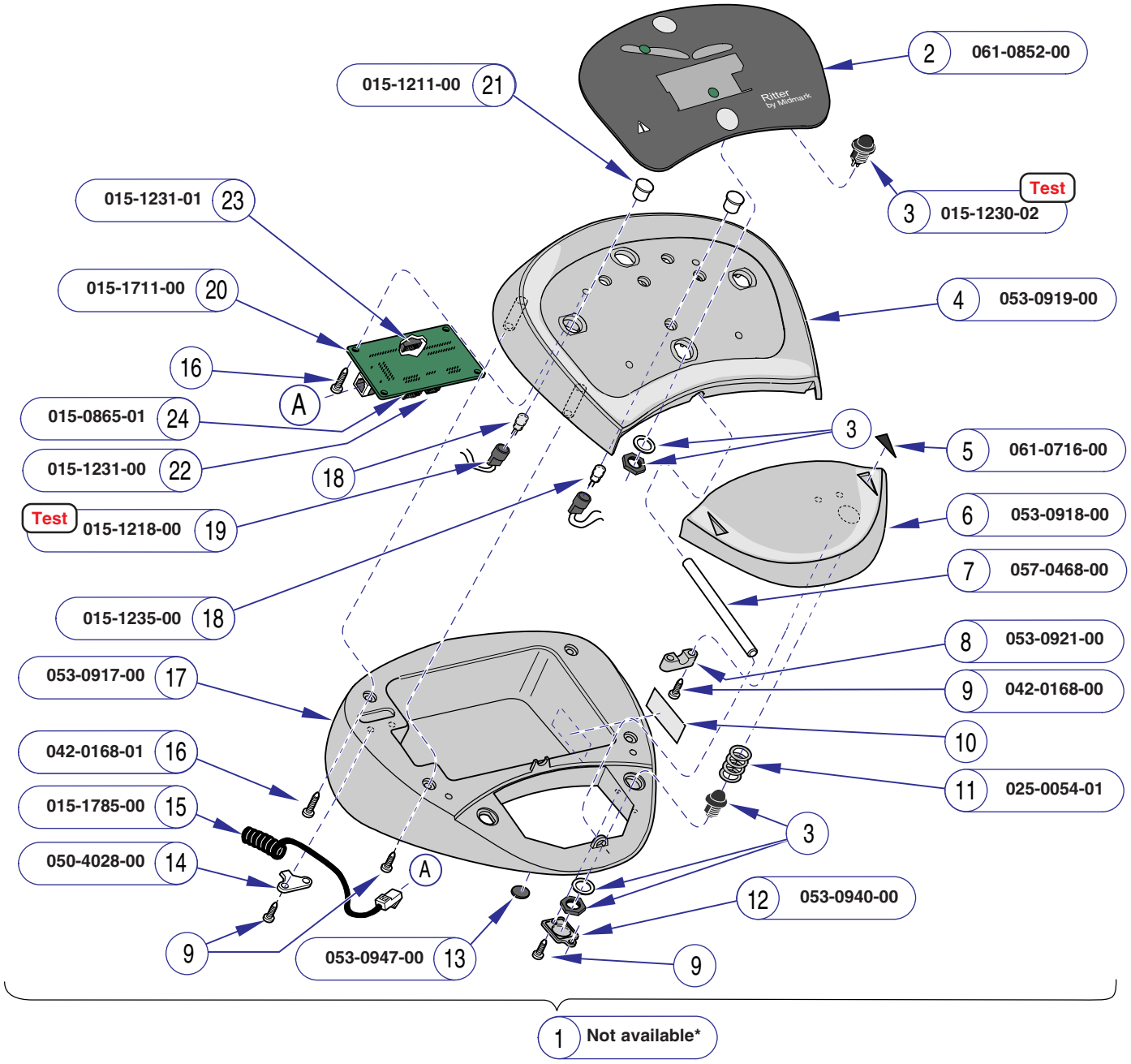
Refer To: Go To Page:
Foot Control Test - *223/623* B-7



MA624400i

***This style foot control is no longer available.**
Subsequent version(s) are compatible.
Refer to following page(s).

Item	Description	Qty.
1	Two Function Foot Control *(includes items 2 thru 24)*	1
2	• Footswitch Label	1
3	• Switch Assembly *(7" leads)*	4
4	• Foot Control Top	1
5	• Up/Down Labels	2
6	• Foot Control Pedal	1
7	• Pivot Shaft	1
8	• Pedal Cap	2
9	• Screw *(metric K 3.5-1.57 x 10mm)*	12
10	• Serial Number Label *(not available)*	1
11	• Spring	2
12	• Switch Cover	2
13	• Stem Bumper	8
14	• Strain Relief	1
15	• Retractable Cord	1
16	• Screw *(metric K 3.5-1.57 x 16mm)*	6
17	• Foot Control Base	1
18	• Green LED *(w/ leads)*	2
19	• Connector Assembly	2
20	• Two Function Control Board	1
21	• Clear Lens	2
22	• Modular Connector	1
23	• Receptacle Housing *(4 position)*	2
24	• Receptacle Housing *(6 position)*	2

Always Specify Model & Serial Number

Models:
Serial Numbers:

223 (-001 thru -014)
SC1000 thru present
SE1000 thru present
V2200 thru V3302
SD1000 thru present
SF1000 thru present

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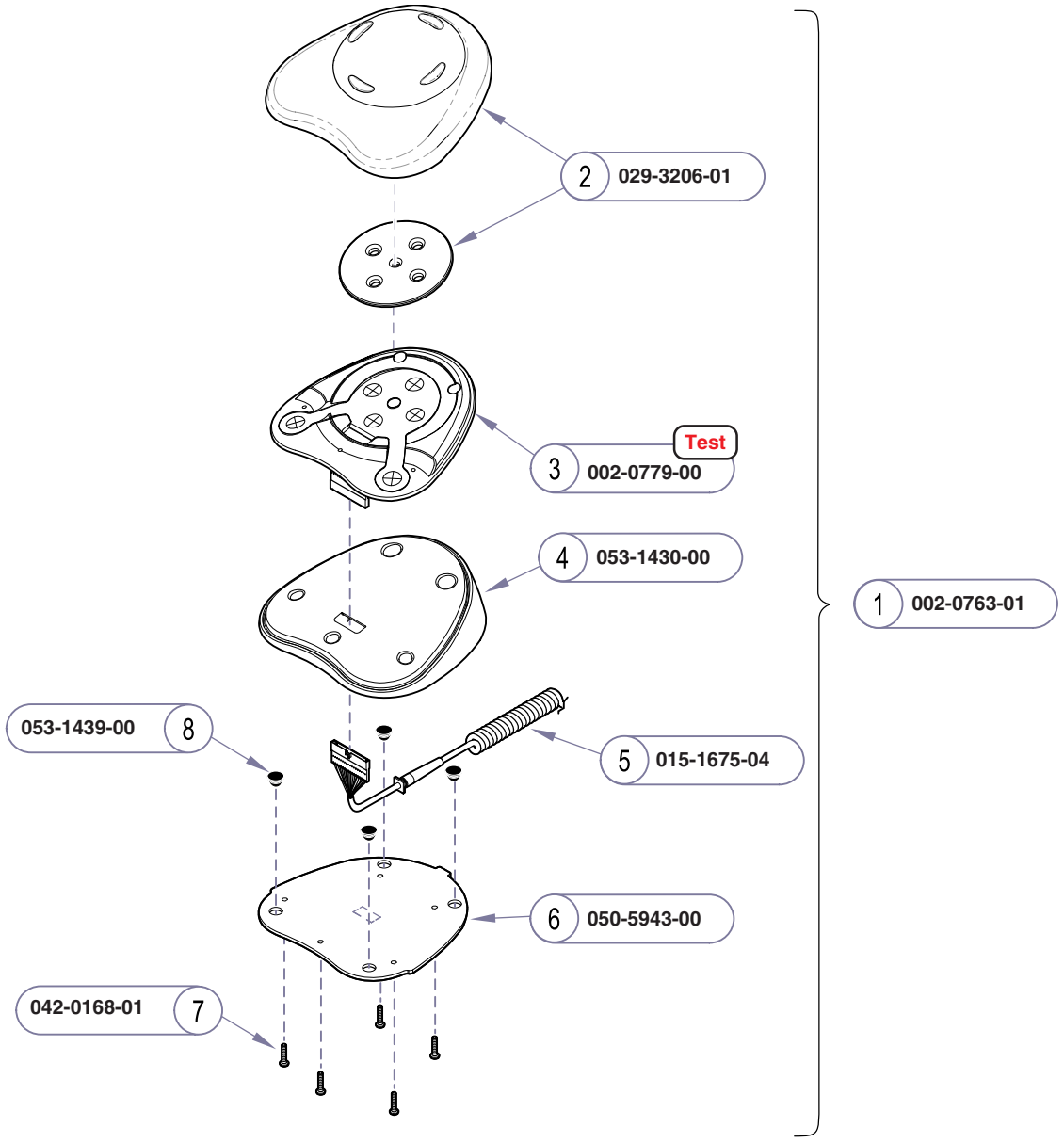
Refer To: Foot Control Test - *223/623* B-7

Go To Page:



MA659300i

Item	Description	Qty.
1	Two Function Foot Control *(incl. items 2 thru 8)*	1
2	• Keypad	1
3	• Switch Membrane Assembly	1
4	• Base	1
5	• Cord	1
6	• Base Plate	1
7	• Screw	5
8	• Stem Bumper	4

Always Specify Model & Serial Number

Foot Control
(223)

Models: ***223 (all)***
Serial Numbers: *V3303 thru present*

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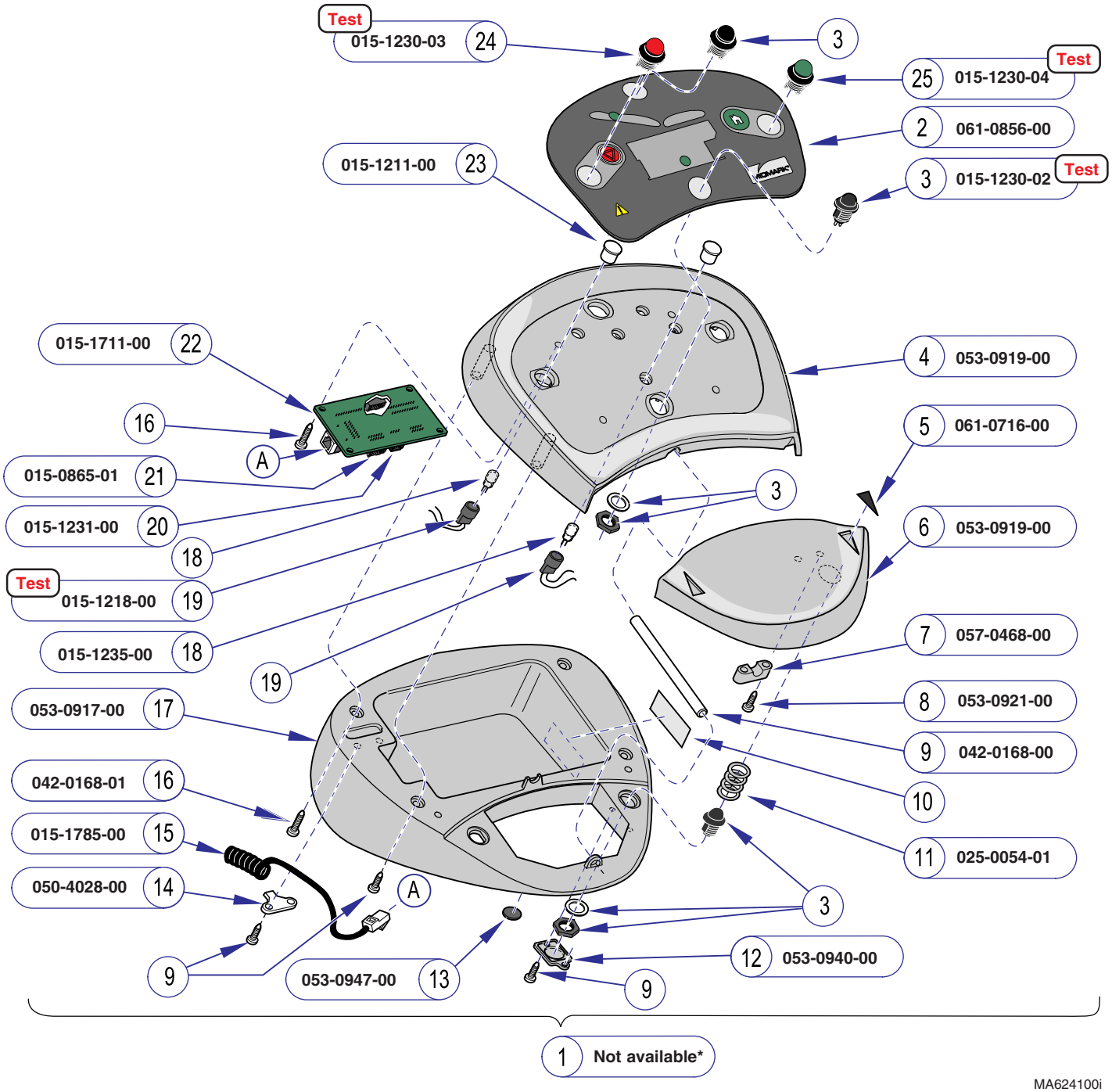

MA624100i

Refer To: Foot Control Test - *223/623* B-7

Go To Page:

***This style foot control is no longer available.**
Subsequent version(s) are compatible.
Refer to following page(s).

Item	Description	Qty.
1	Two Function Foot Control *(includes items 2 thru 25)*	1
2	• Footswitch Label	1
3	• Switch Assembly *(7" leads)* *(Black cap: 015-1205-03)*	4
4	• Foot Control Top	1
5	• Up/Down Labels	2
6	• Foot Control Pedal	1
7	• Pivot Shaft	1
8	• Pedal Cap	2
9	• Screw *(metric 3.5 x 10mm)*	12
10	• Serial Number Label *(not available)*	1
11	• Spring	2
12	• Switch Cover	2
13	• Stem Bumper	8
14	• Strain Relief	1
15	• Retractable Cord	1
16	• Screw *(metric 3.5 x 16mm)*	6
17	• Foot Control Base	1
18	• Green LED *(w/ leads)*	2
19	• Connector Assembly	2
20	• Receptacle Housing *(4 position)*	2
21	• Receptacle Housing *(6 position)*	2
22	• Two Function Control Board	1
23	• Clear Lens	2
24	• Switch Assmbly *(5" leads)* *(Red cap: 015-1205-04)*	1
25	• Switch Assmbly *(5" leads)* *(Green cap: 015-1205-05)*	1

Always Specify Model & Serial Number

Models:
Serial Numbers:

***623** (-001 thru -006)*
SL1000 thru present
V2200 thru V3302
SM1000 thru present

Foot Control
(623)

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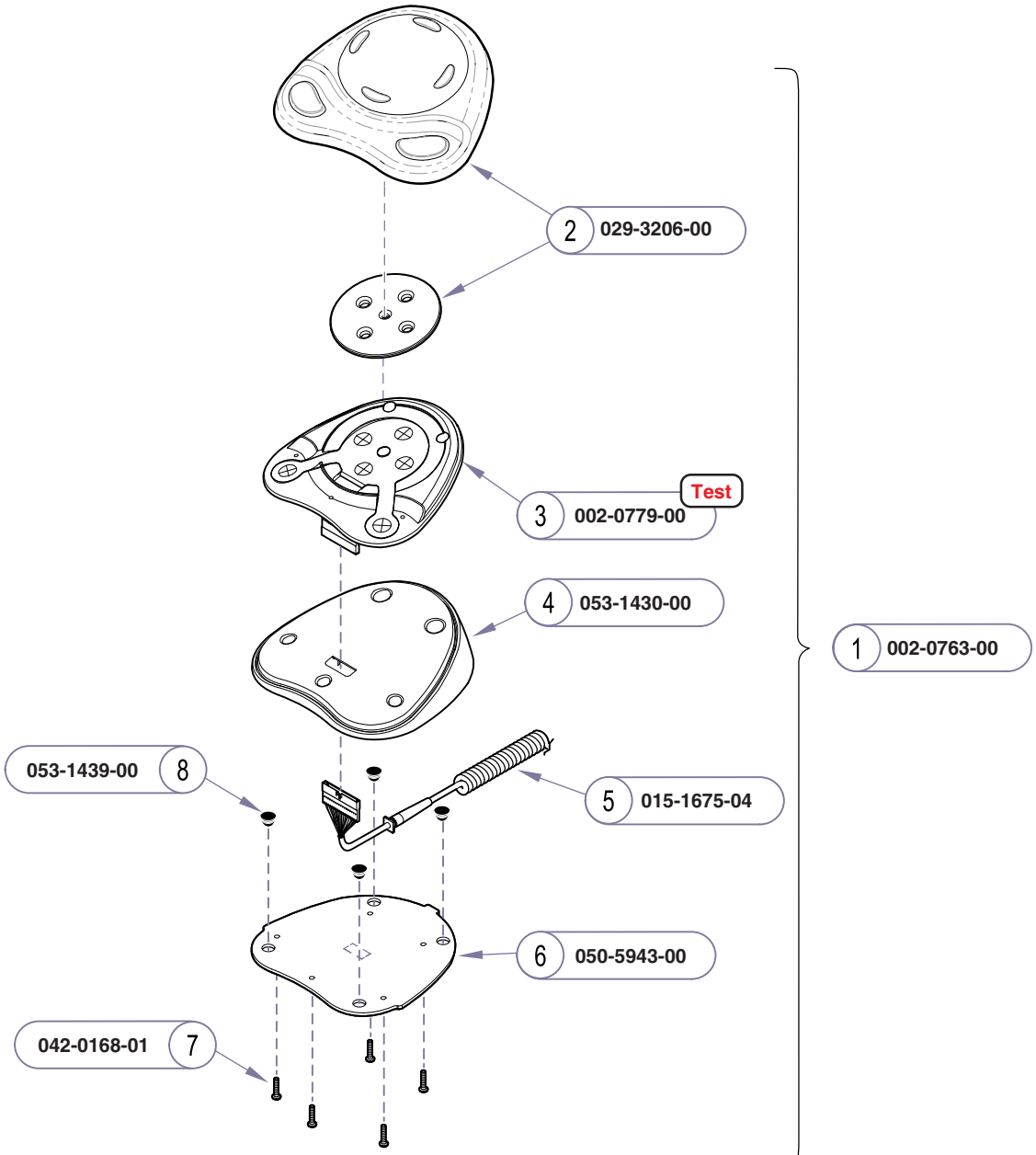
Foot Control Test - *223/623* B-7



MA676400i

Item	Description	Qty.
1	Foot Control Assembly *(incl. items 2 thru 8)*	1
2	• Keypad	1
3	• Switch Membrane Assembly	1
4	• Base	1
5	• Cord	1
6	• Base Plate	1
7	• Screw	5
8	• Stem Bumper	4

Always Specify Model & Serial Number

Foot Control *(623)*

Models: *623 (all)*
Serial Numbers: *V3303 thru present*

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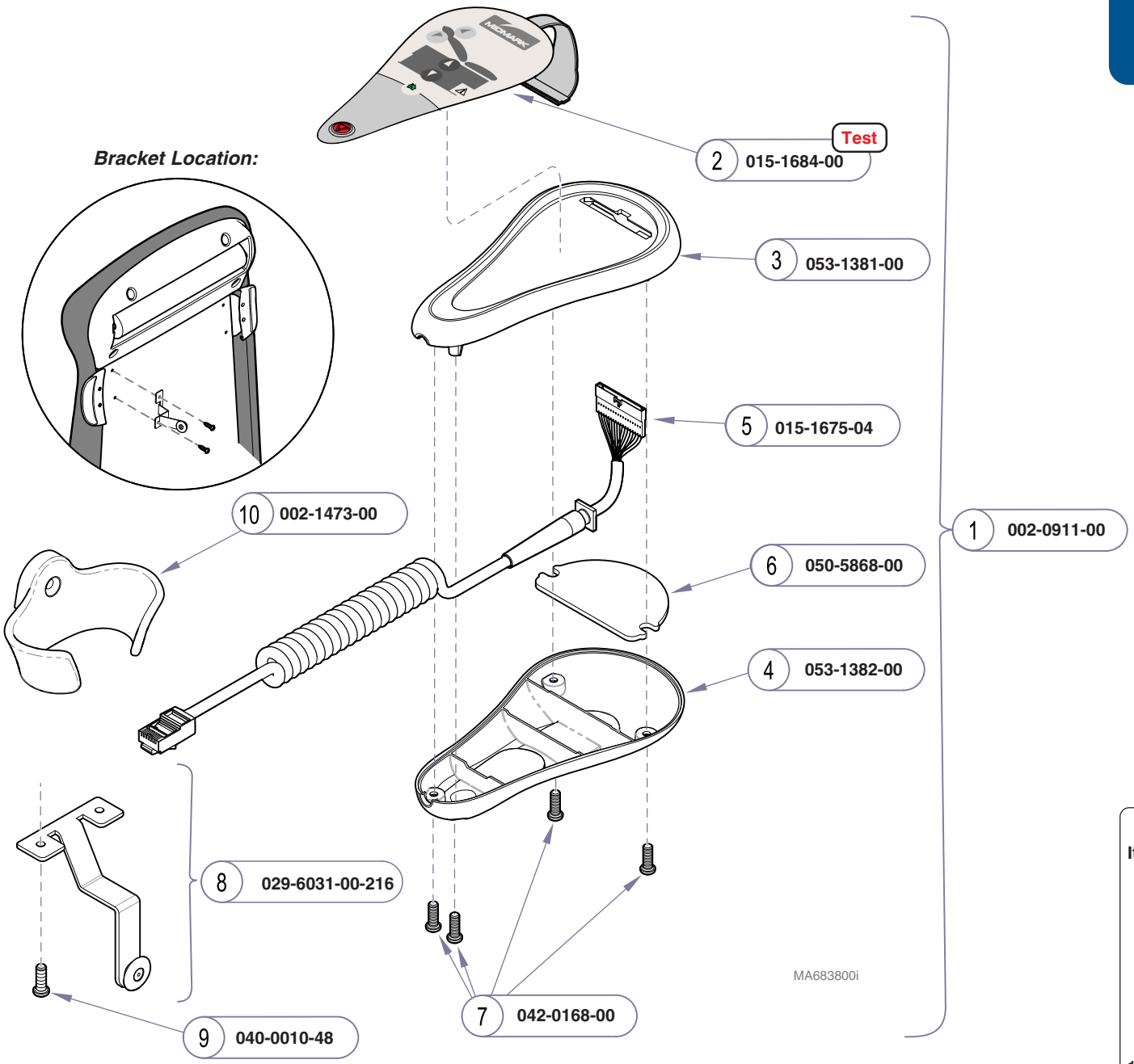
Refer To: Hand Control Test - *223/623* ..... B-7 **Go To Page:**



Item	Description	Qty.
1	Hand Control Assy. *(incl. items 2 thru 10)*:	
2	• Touch Pad	
3	• Top Housing	1
4	• Bottom Housing	1
5	• Retractable Cord Assembly	1
6	• Hand Control Weight	1
7	• Screw *(3.5 x 10)*	4
8	• Mounting Bracket *(incl. item 9)*	1
9	• • Screw	2
10	• Hand Control Holster	1

Always Specify Model & Serial Number

Models: Serial Numbers:	***623*** *(-001 thru -006)* All	***223*** *(-001 thru -014) [Optional]* All

Hand Control & Mounting Bracket

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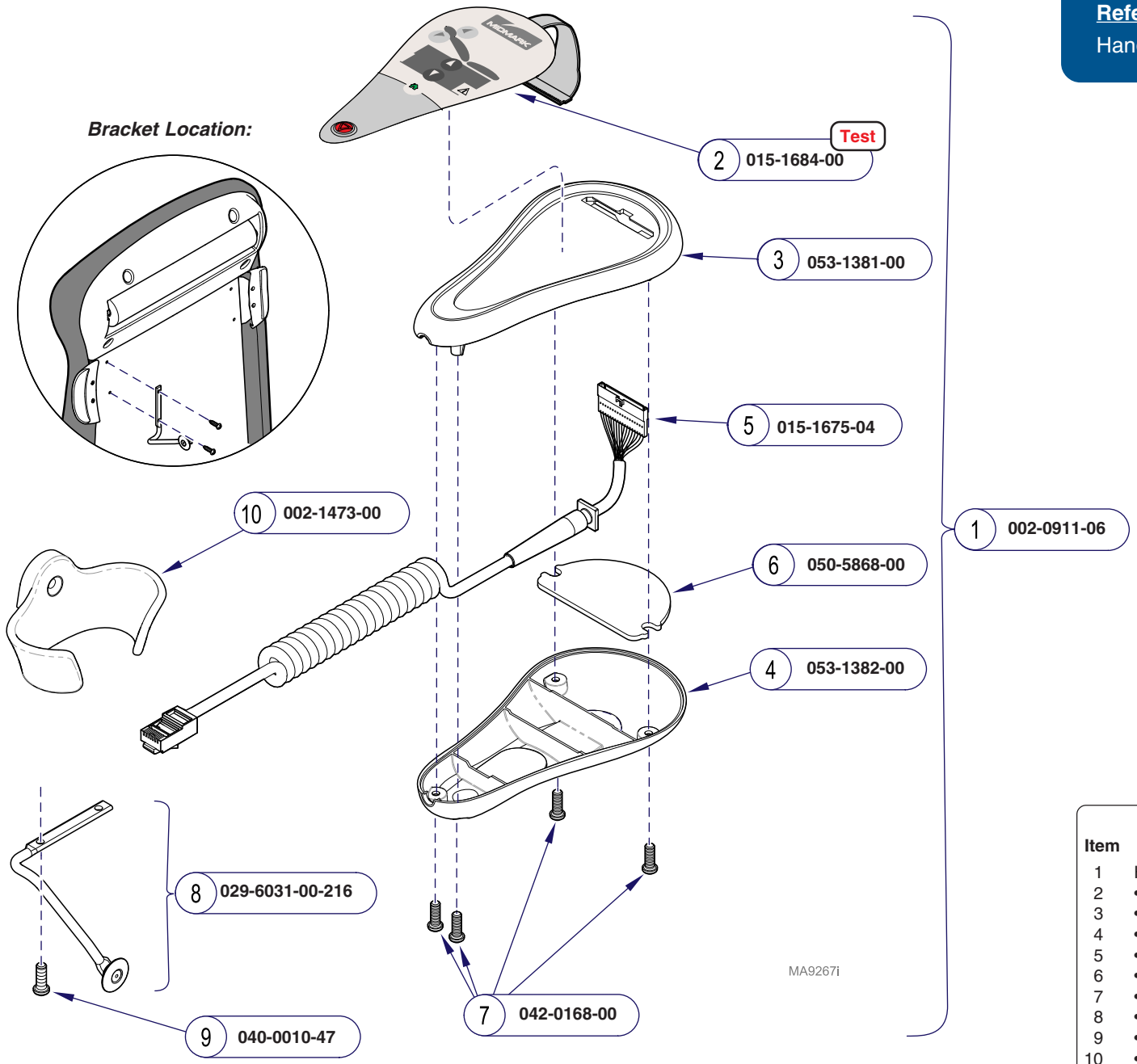
Hand Control Test - *223/623*..... B-7



Item	Description	Qty.
1	Hand Control Assy. *(incl. items 2 thru 10)*:	
2	• Touch Pad	
3	• Top Housing	1
4	• Bottom Housing	1
5	• Retractable Cord Assembly	1
6	• Hand Control Weight	1
7	• Screw *(3.5 x 10)*	4
8	• Mounting Bracket *(incl. item 9)*	1
9	• • Screw	2
10	• Hand Control Holster	1

Always Specify Model & Serial Number

Hand Control & Mounting Bracket

Models:	***623*** *(-007 thru -011)*	***223*** *(-015 & -016) [Optional]*
Serial Numbers:	*All*	*All*

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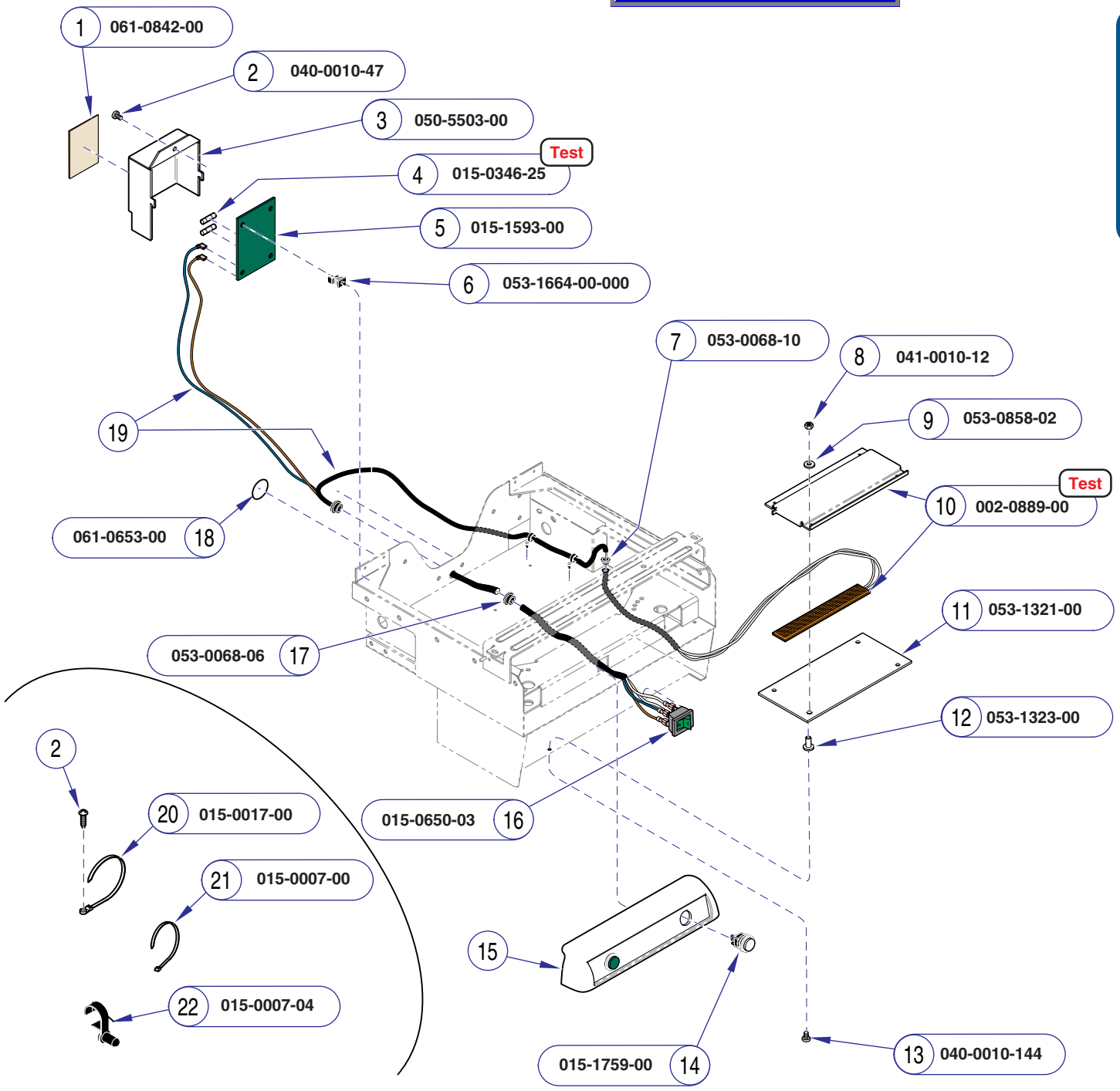

MA611104i

Refer To: *Go To Page:*

Fuse Test B-3
Drawer Heater System Test B-25
Section D - Wiring Diagrams D-1
Midmark Upperwrap & Footrest Shelf E-17

Item	Description	Qty.
1	Fuse Replacement Label	1
2	Screw *(#10-24 x .37")*	1
3	Distribution Board Cover	1
4	Fuse *(800 mA, 250V, Slo-Blo, 5 x 20mm)*	2
5	Distribution Board	1
6	PC Board Standoff	4
7	Snap Bushing	1
8	Nut *(#10-32)*	4
9	Nylon Washer	4
10	Heater Plate Assembly	1
11	Heater Insulation	1
12	Nylon Shoulder Washer	4
13	Screw *(#10-32 x .5")*	1
14	Drawer Htr. Switch / Harness *(622/623)*	1
15	Refer to: *"Midmark Upperwrap & Footrest Shelf"*	Ref
16	Drawer Heater Switch *(222/223)*	1
17	Snap Bushing	2
18	Ground Label	1
19	Refer to: *Section D - Wiring Diagrams*	Ref
20	Cable Tie (w/ screw hole)	2
21	Cable Tie	1
22	Wrap-N-Tap	8

Always Specify Model & Serial Number

Models: Serial Numbers:	***222*** *(-003 /-004 /-007 /-008 /-010)* All	***223*** *(-003 /-004 /-007 /-008 /-010)* All	***622*** *(-002 & -004)* All	***623*** *(-002 & -004)* All

Drawer Heater System

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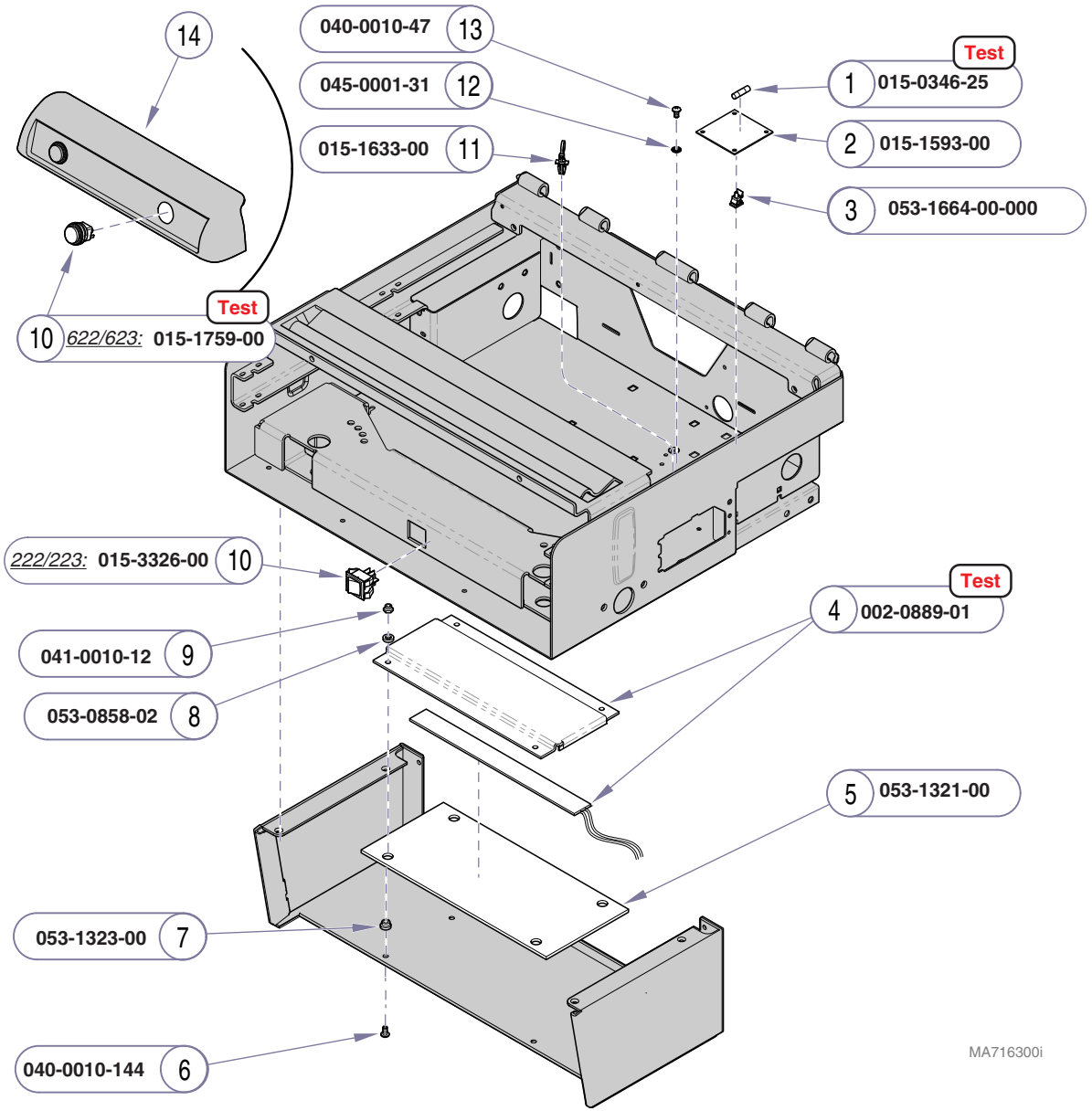

Refer To: — **Go To Page:**

Fuse Test B-3
Drawer Heater System Test B-23
Section D - Wiring Diagrams D-1
Midmark Upperwrap & Footrest Shelf E-17.1

Item	Description	Qty.
1	• Fuse *(800 mA, 250V, Slo-Blo, 5 x 20mm)*	2
2	• Distribution Board	1
3	• PC Board Standoff	4
4	• Heater Plate Assembly	1
5	• Heater Insulation	1
6	• Screw *(10-32x 1/2")*	4
7	• Nylon Shoulder Washer	4
8	• Nylon Washer	4
9	• Nylon Nut	4
10	• Drawer Heater Switch with Harness	1
11	• Wrap-N-Tap	3
12	• Lockwasher *(#10)*	1
13	• Screw *(#10-24 x 3/8")*	1
14	Refer to: *Midmark Upperwrap & Footrest Shelf"*	Ref

Always Specify Model & Serial Number

Drawer Heater System

Models: *Serial Numbers:*	***222*** *(-016)* *All*	***223*** *(-016)* *All*	***622*** *(-008)* *All*	***623*** *(-008 /-010 /-011)* *All*

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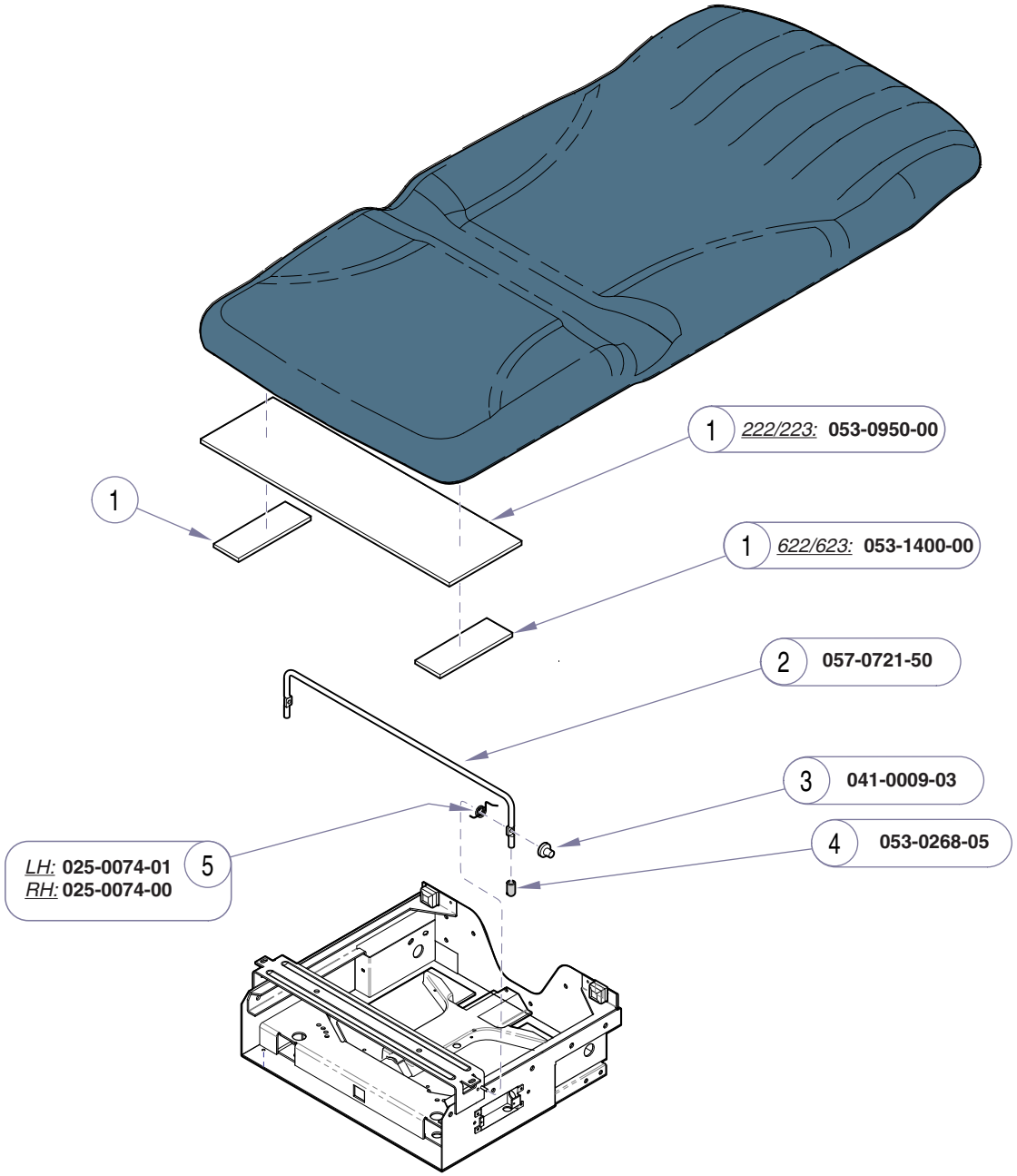

MA612201i

Item	Description	Qty.
1	• Scuff Plate	1 / 2
2	• Pelvic Lift	1
3	• Push Nut	2
4	• Vinyl End Cap	2
5	• Pelvic Lift Spring (LH shown)	2

Always Specify Model & Serial Number

Models: Serial Numbers:	***222*** *(-003 /-004 /-007 thru -010)* *All*	***223*** *(-003 /-004 /-007 thru -010)* *All*	***622*** *(-002 /-003 /-004 /-006)* *All*	***622*** *(-002 /-003 /-004 /-006)* *All*

Pelvic Tilt

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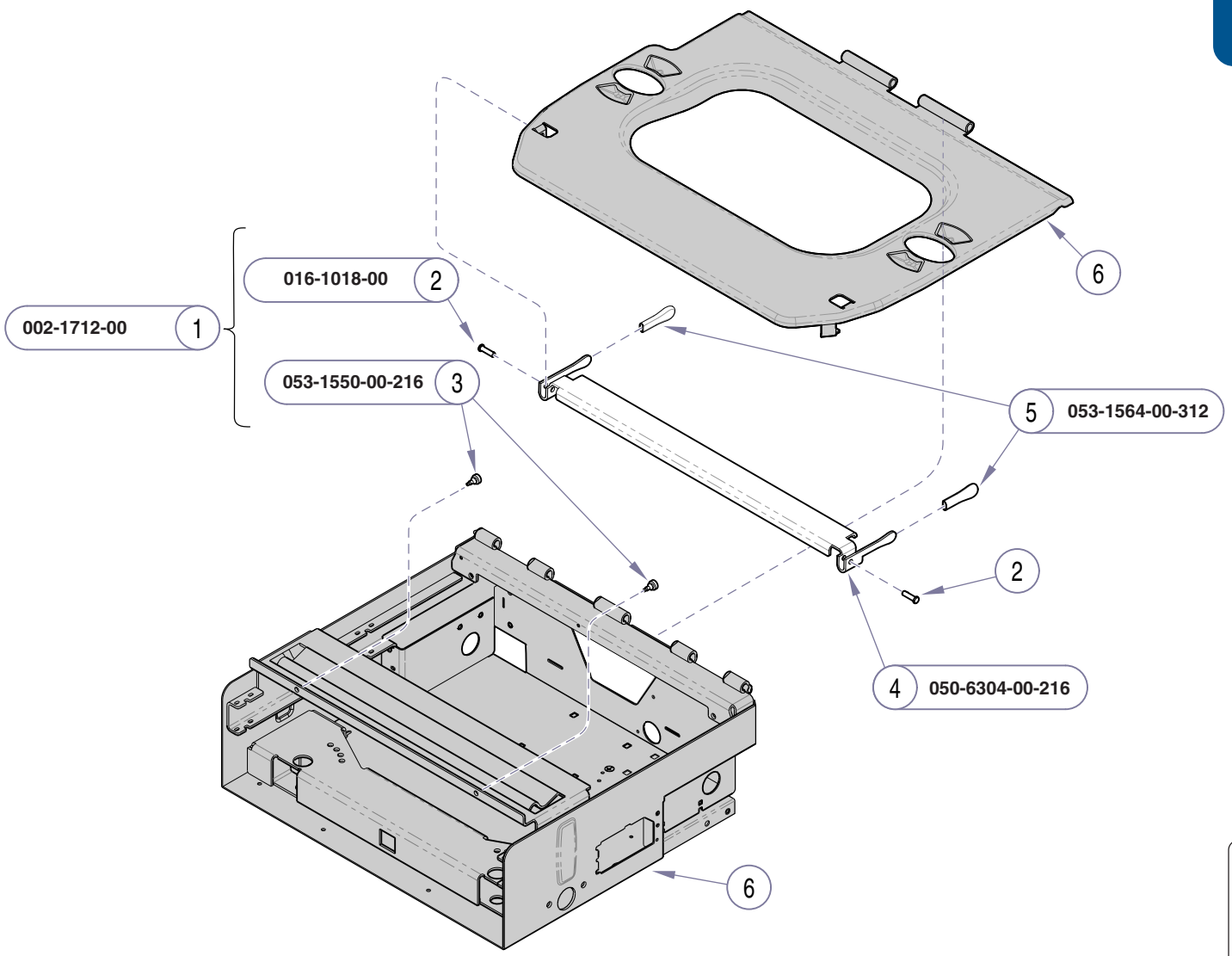
Upperwrap & Footrest Shelf:
Ritter models E-16.2
Midmark models E-17.1



MA716200i

Item	Description	Qty.
1	Pelvic Tilt Assembly *(includes items 2 thru 5)*	1
2	• Pivot Pin	2
3	• Bumper	2
4	• Bracket	1
5	• Handle	2
6	Refer to: *"Upperwrap & Footrest Shelf"*	Ref

Always Specify Model & Serial Number

Pelvic Tilt

Models: *Serial Numbers:*	***222*** *(-016 & -017)* *All*	***223*** *(-016)* *All*	***622*** *(-008)* *All*	***623*** *(-008 thru -011)* *All*

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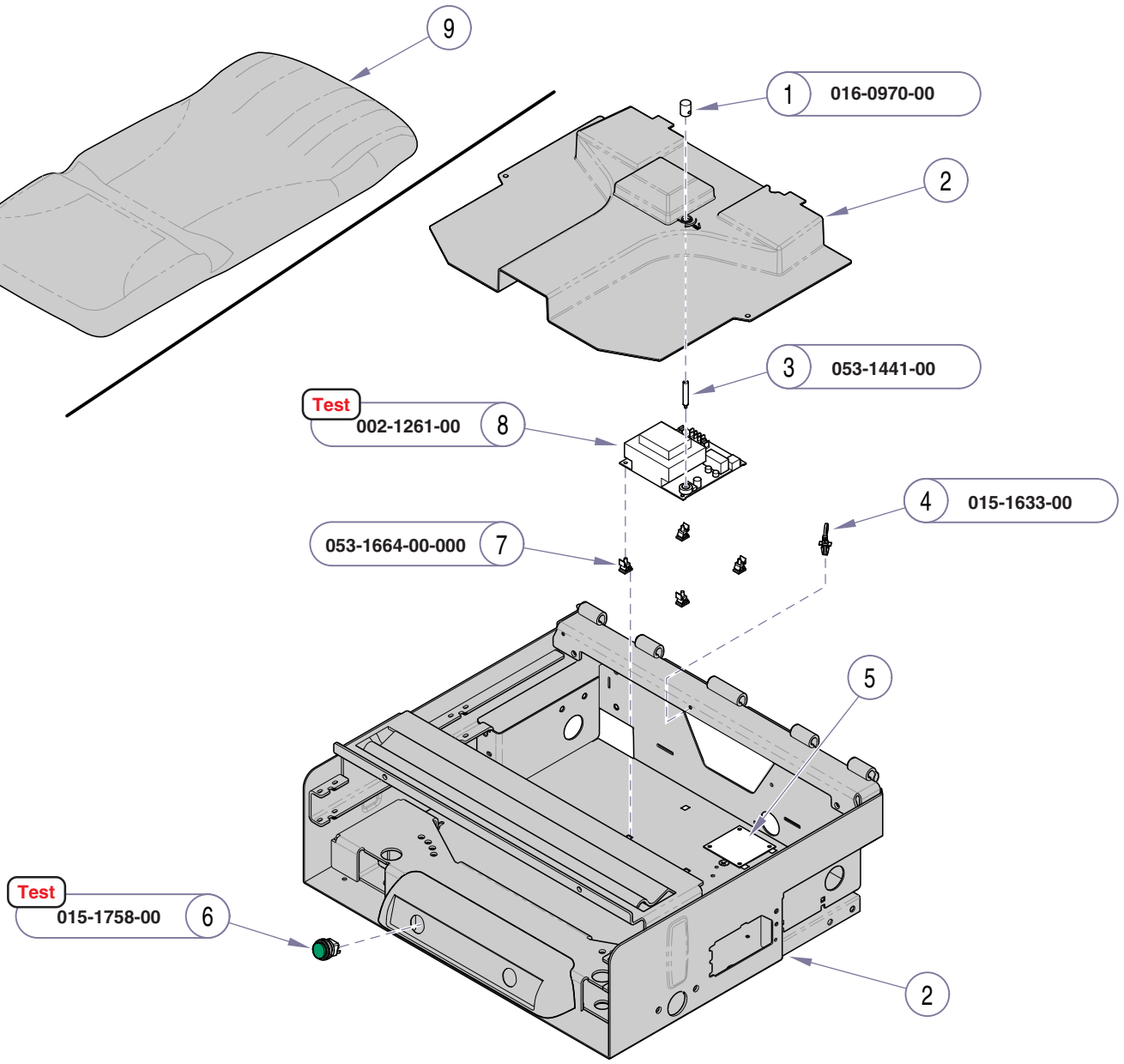

MA716400i

Refer To: *Go To Page:*

Uph. Heater System Test B-31
Upholstery - Midmark:
Premium E-8*
Ultra-Premium E-9*
Midmark Upperwrap
& Footrest Shelf E-17*
Drawer Heater System E-31*

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Adjustment Knob	1
2	Refer to: *"Midmark Upperwrap & Footrest Shelf"*	Ref
3	Adjustment Shaft	1
4	Wrap-n-Tap Wire Tire	3
5	Refer to: *"Drawer Heater System"*	Ref.
6	Upholstery Heater Switch *(green)*	1
7	PC Board Standoffs	4
8	Upholstery Heater PC Board Kit *(includes item 2)*	1
9	Refer to: *"Upholsery - Midmark"*	Ref

Always Specify Model & Serial Number

Models:
Serial Numbers:

622 *(-002 /-004 /-006 /-008)*
V2200 thru V857486

623 *(-002 /-004 /-006 /-008 /-010)*
V2200 thru V857486

Upholstery Heater Components

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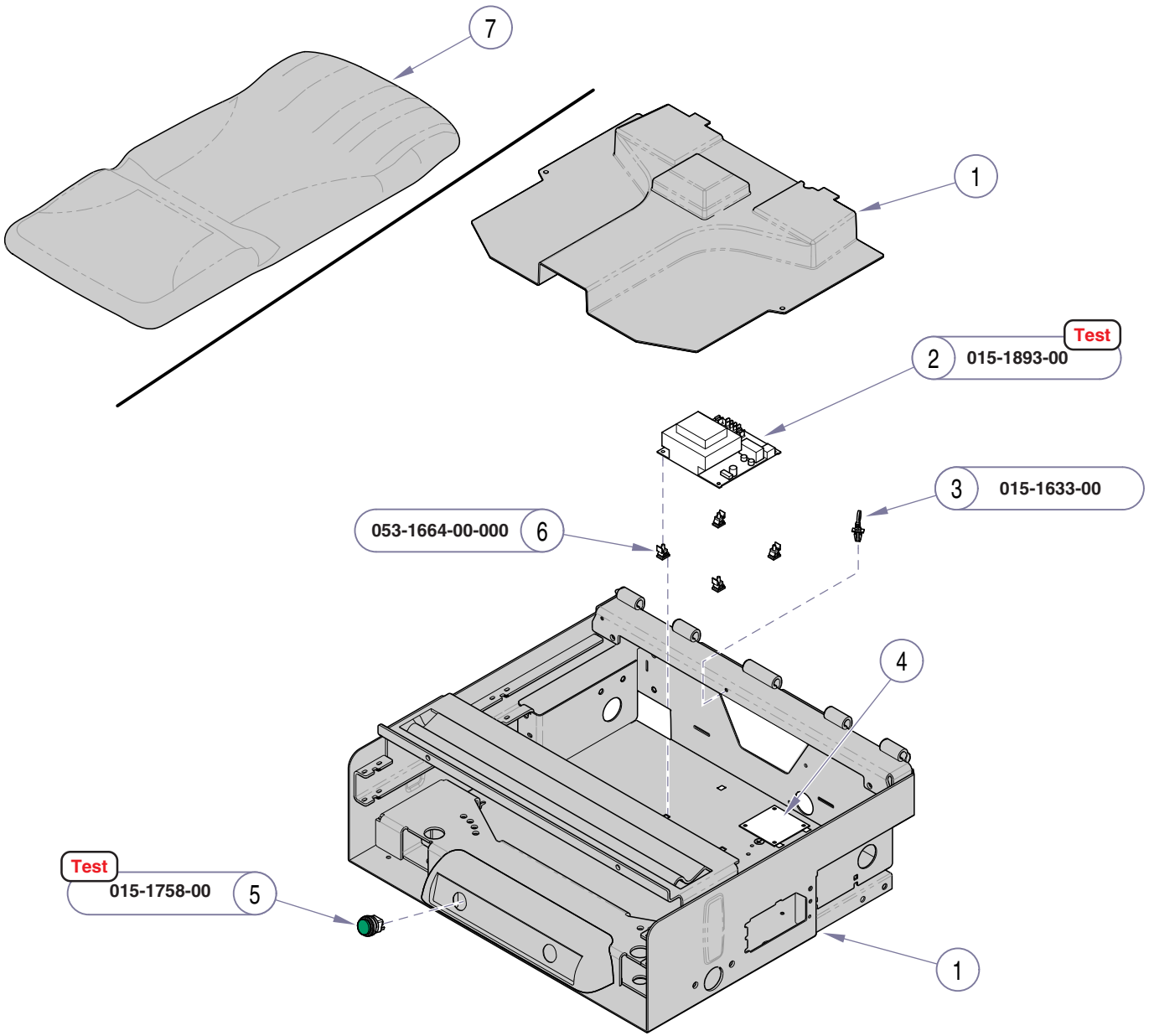

MA716401i

Refer To: *Go To Page:*

Uph. Heater System Test B-31
Upholstery - Midmark:
Premium E-8*
Ultra-Premium E-9*
Midmark Upperwrap
& Footrest Shelf E-17*
Drawer Heater System E-31*

** multiple pages due to model / serial # break*

Item	Description	Qty.
1	Refer to: *"Midmark Upperwrap & Footrest Shelf"*	Ref
2	Upholsery Heater PC Board	1
3	Wrap-n-Tap Wire Tire	3
4	Refer to: *"Drawer Heater System"*	Ref.
5	Upholstery Heater Switch *(green)*	1
6	PC Board Standoffs	4
7	Refer to: *"Upholstery - Midmark"*	Ref

Always Specify Model & Serial Number

Upholstery Heater Components

Models: *Serial Numbers:*
622 *(-002 /-004 /-006 /-008)* *V857487 thru present*
623 *(-002 /-004 /-006 /-008 /-010)* *V857487 thru present*

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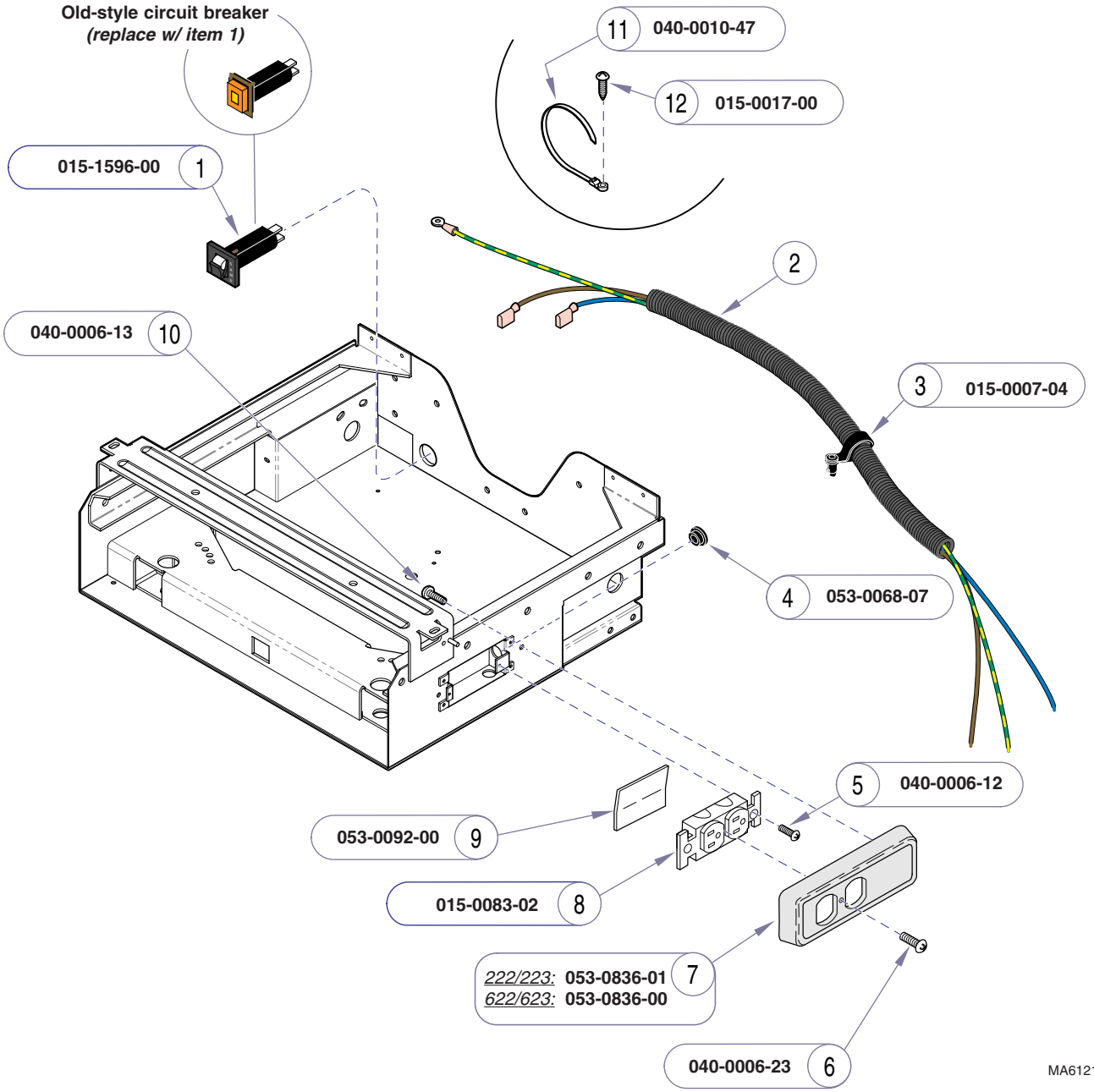
Refer To: **Go To Page:**
Wiring Diagrams D-1



MA612103i

Item	Description	Qty.
1	Circuit Breaker*	1
	*not used on Canadian models:	
	222 / 223 (-011 thru -014)	
	623 / 623 (-005 & -006)	
2	Refer to: *Section D - Wiring Diagrams*	Ref
3	Wrap-N-Tap	3
4	Snap Bushing	1
5	Screw	2
6	Flat Head Screw *(#6-32 x 1")*	1
7	Receptacle Cover	1
8	Duplex Receptacle	1
9	Insulator	1
10	Screw *(#6-32)*	2
11	Cable Tie *(w/screw hole)*	4
12	Screw *(#10-24 x .37")*	4

Always Specify Model & Serial Number

Table Receptacle System

Models: *Serial Numbers:*	***222*** *(-002 /-004 /-006 /-008) (-011 thru -014) All*	***223*** *(-002 /-004 /-006 /-008) (-011 thru -014) All*	***622*** *(-001 /-002 /-005 /-006) All*	***623*** *(-001 /-002 /-005 /-006) All*

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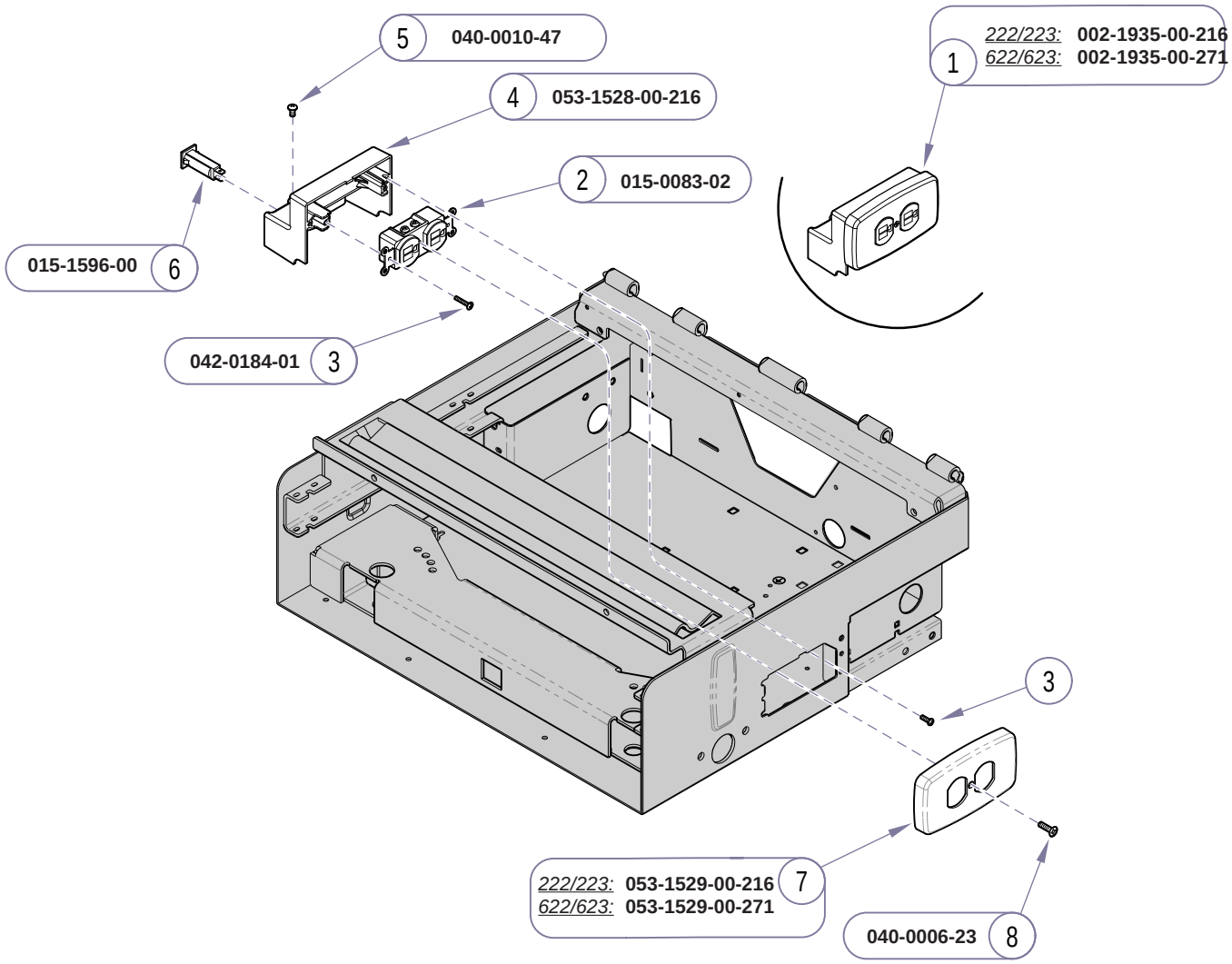

MA716100i

Item	Description	Qty.
1	Table Receptacle Assembly *(includes items 2 thru 9)*	1
2	• Duplex Receptacle	1
3	• Screw *(.138-32 x 1/2")*	4
4	• Circuit Breaker Housing	1
5	• Screw *(#10-24 x 3/8")*	1
6	• Circuit Breaker *(5 amp)*	2
7	• Receptacle Cover	1
8	• Screw *(#6-32 x 1/2")*	1

Always Specify Model & Serial Number

Models: *Serial Numbers:*	***222*** *(-015 & -016)* *All*	***223*** *(-015 & -016)* *All*	***622*** *(-007 & -008)* *All*	***623*** *(-007 & -008)* *All*

Table Receptacle System

E-34.1

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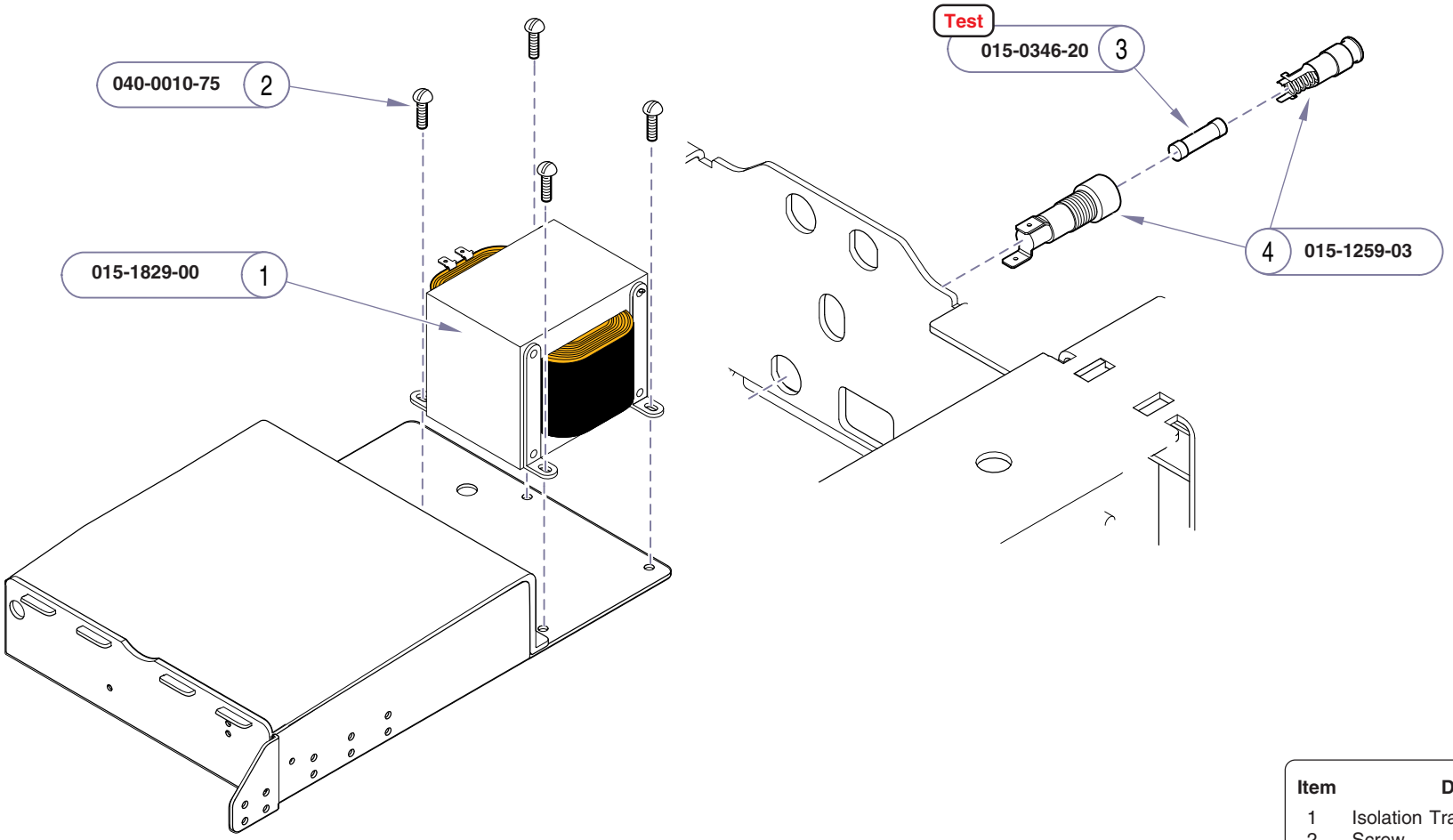
Refer To:
Fuse Test B-3

Go To Page:



Item	Description	Qty.
1	Isolation Transformer	1
2	Screw	4
3	Fuse *(6.3A, 250V, Slo-Blo, 5 x 20 mm)*	1
4	Fuse Holder	2

Always Specify Model & Serial Number

MA682100i

Canadian Electrical System

Models: *Serial Numbers:*	***222*** *(-011 thru -014)* *All*	***223*** *(-011 thru -014)* *All*	***622*** *(-005 & -006)* *All*	***623*** *(-005 & -006)* *All*

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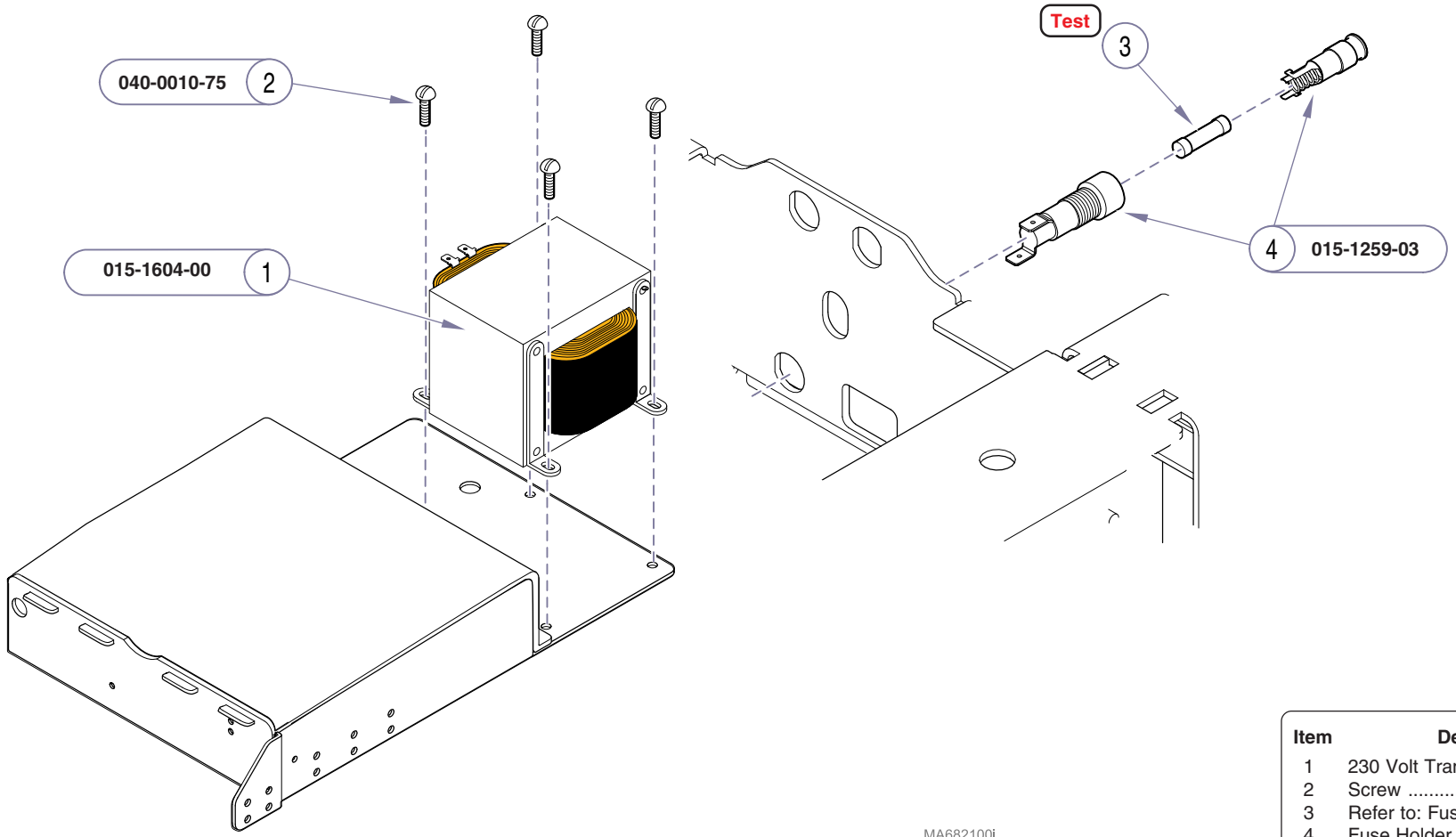
Refer To: Go To Page:
Fuse Test B-3



Item	Description	Qty.
1	230 Volt Transformer	1
2	Screw	4
3	Refer to: Fuses	2
4	Fuse Holder	2

Always Specify Model & Serial Number

Models: Serial Numbers:	***222*** *(-009 /-010 /-017)* *All*	***223*** *(-009 & -010)* *All*	***622*** *(-003 & -004)* *All*	***623*** *(-003 /-004 /-009 /-010 /-011)* *All*

230 Volt Electrical System

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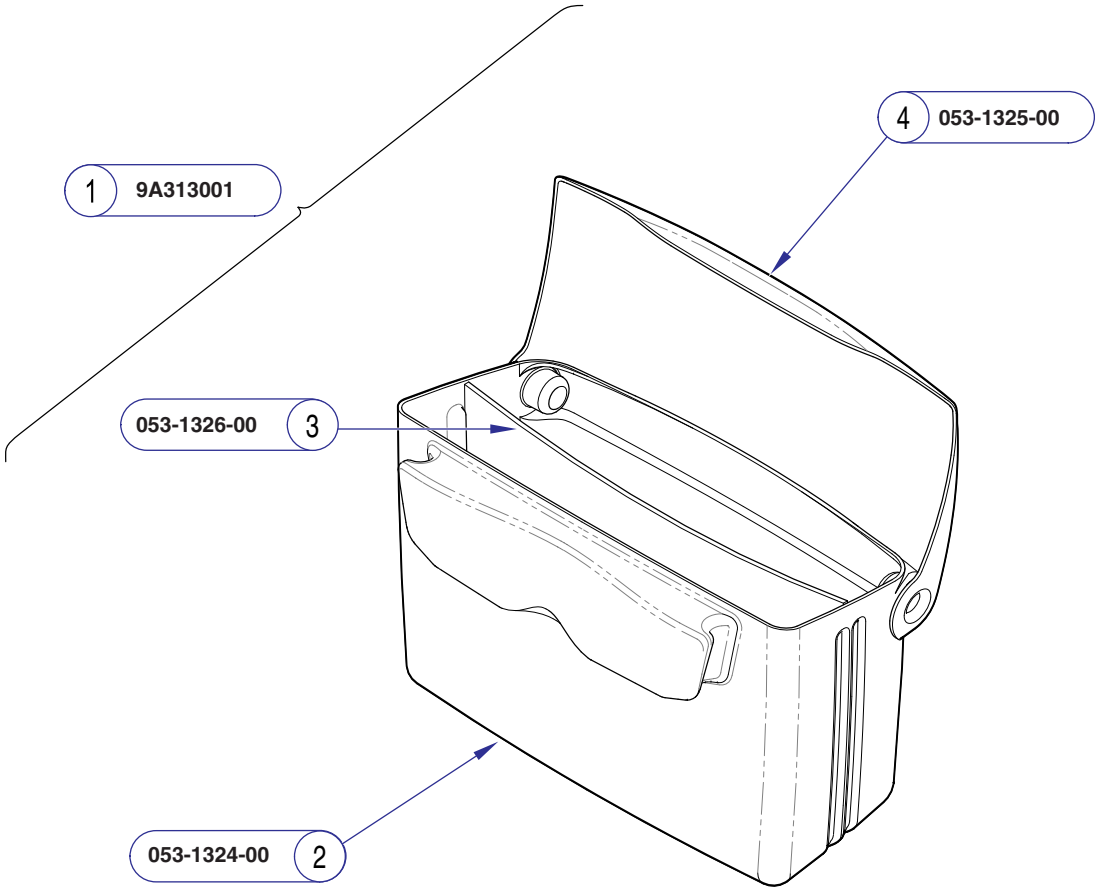

MA612900i

Item	Description	Qty.
1	Storage Pod Assembly ..... *(includes items 2 thru 4)*	1
2	• Storage Container	1
3	• Storage Divider	1
4	• Storage Container Lid	1

Always Specify Model & Serial Number

Storage Pod

Models: *Serial Numbers:*	***622*** ***(all)*** *All*	***623*** ***(all)*** *All*

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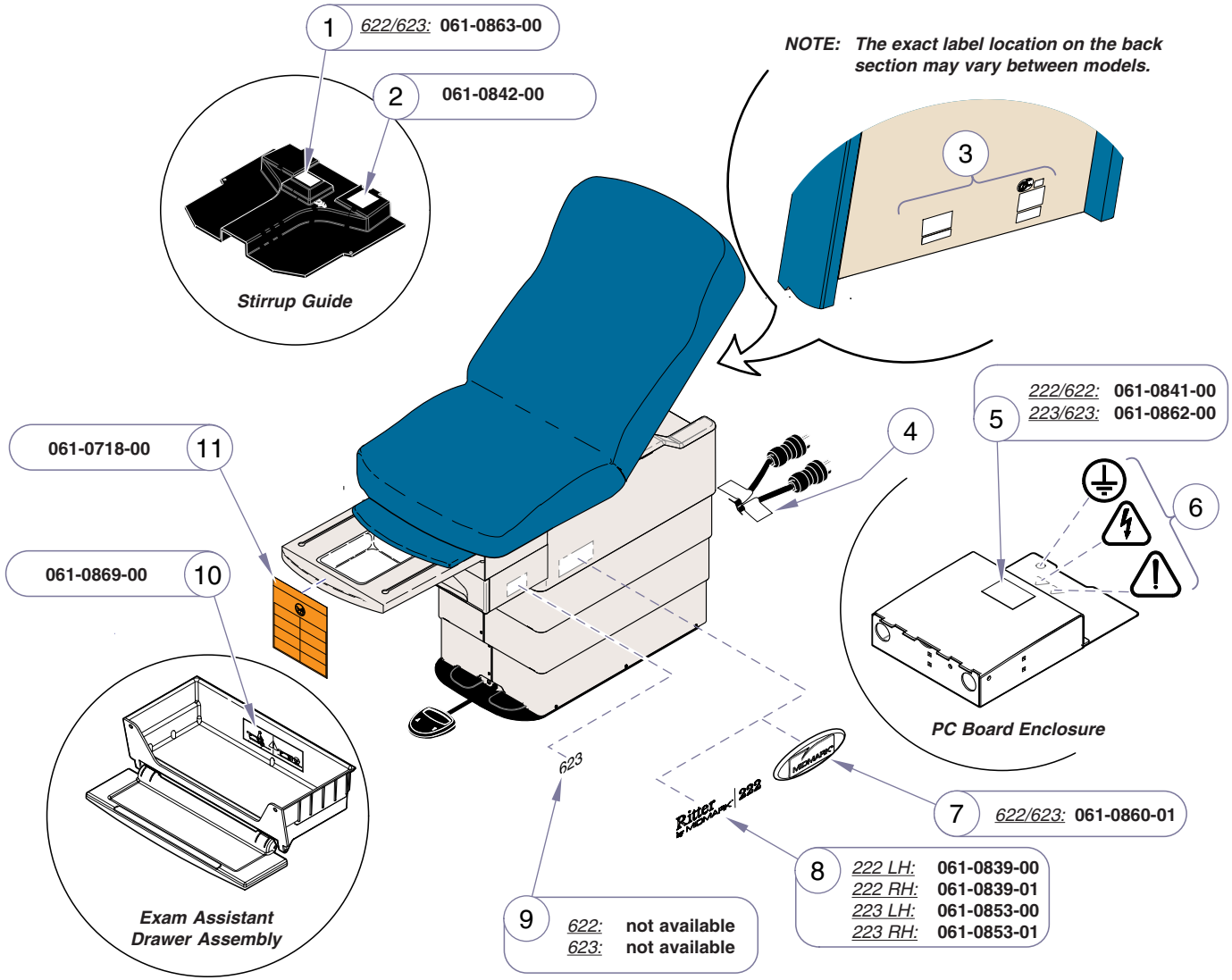

MA730900i

Item	Description	Qty.
1	Fuse Label *(Uph. Htr. PC Board)*	1
2	Fuse Label *(Distribution Board)*	1
3	Regulatory Certification Label	1
	Duty Cycle Label	1
	Danger Label *(w/Table Receptacle only)*	1
	Patent Pending Label	1
	Model / Serial Number Label	1
	Patent Number Label	1
4	Power Cord Label	2
5	Fuse Label *(Main PC Board)*	1
6	Ground Label	1
	Dangerous Voltage Label	1
	Caution Label	1
7	Midmark Nameplate	2
8	Ritter Model Label *(LH shown)*	2
9	Midmark Model Label *(early models only)*	2
10	Exam Assistant Drawer Label	1
11	Stirrup Lifting Caution Label	1

Always Specify Model & Serial Number

Models: *All*
Serial Numbers: *All*

Label Location

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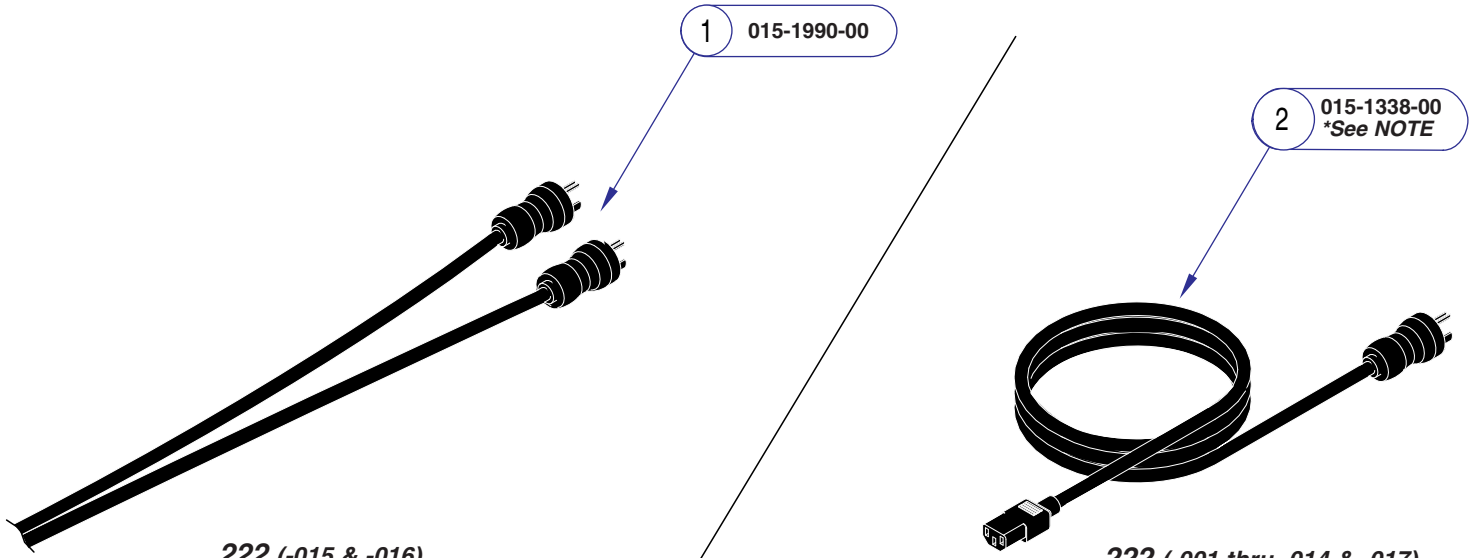

***222** (-015 & -016)*
***223** (-015 & -016)*

***622** (-007 & -008)*
***623** (-007 & -008)*

***222** (-001 thru -014 & -017)*
***223** (-001 thru -014)*

***622** (-001 thru -006)*
***623** (-001 thru -006, -009 thru -011)*

Item	Description	Qty.
1	Power Cord, Conjoined	1
2	Power Cord	1

**NOTE: Export models, 622/623 (-003 /-004) require 9A152 International Cordsets.*

Always Specify Model & Serial Number

Power Cords

Models: ***All***
Serial Numbers: *All*

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Page Number	Paragraph/Figure	Description

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ATTENTION: CUSTOMER SERVICE DEPARTMENT

SERVICE PARTS FAX ORDERING FORM

(Do not tear out this page. Photo copy this page for use only.)

MIDMARK®

IMPORTANT NOTES:

1) ***Use this form for all non-warranty orders only***. *Warranty orders must be telephoned in (1-800-643-6275).*

2) *FAX number to send order to: 877-249-1793*

3) *All emergency orders must be received @ Midmark by 1:00 pm EST.*

4) *All underlined headings should be filled in prior to submittal.*

ADDITIONAL COMMENTS:

DATE: ____ / ____ / _____ **TIME:** _____ am pm

METHOD OF SHIPMENT: _____

PRIORITY:

☐ **NON-EMERGENCY ORDER {to ship within 72 hours if part(s) are in stock.}**

☐ **EMERGENCY ORDER {to ship within 24 hours if part(s) are in stock.} [see note 3]**

DEALER P.O. #: _____

ACCOUNT #: _____

MODEL #:	**SERIAL #:**	**SALES ORDER #** (if applicable)

NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** ____ **ZIP:** _____

CONTACT: _____

PHONE: _____

FAX #: _____

SHIP TO: _____

LINE #	PART NUMBER	QTY.	DESCRIPTION	COLOR (if applicable)

CREDIT CARD INFORMATION

CARD TYPE _____ **CARD #**_____-_____-_____-_____ **EXP. DATE** _____ / _____ / _____

NAME ON CARD _____ **SIGNATURE**_____

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